UNITED STATES NAVY DEPARTMENT.

SCIENTIFIC RESULTS

OF THE

UNITED STATES ARCTIC EXPEDITION.

STEAMER POLARIS, C. F. HALL COMMANDING.

VOL. I.

PHYSICAL OBSERVATIONS.

BY

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CHIEF OF THE SCIENTIFIC DEPARTMENT, UNITED STATES ARCTIC EXPEDITION.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1876.

NATIONAL ACADEMY OF SCIENCES,
Washington, D. C., March 10, 1875.

SIR: I have the honor to submit herewith the first volume of the report of the scientific results of the "Expedition to the North Pole," prepared by Dr. Emil Bessels, under the direction of the National Academy of Sciences, in accordance with the law of Congress.

Very respectfully, your obedient servant,

JOSEPH HENRY,
President National Academy of Sciences.

HON. GEORGE M. ROBESON,
Secretary of the Navy.

WASHINGTON, D. C., *March* 1, 1875.

SIR: Having been ordered by the Secretary of the Navy to report to you the scientific results of the late United States Arctic Expedition, I herewith submit the first volume of the report, containing the "Physical Observations."

Some portions of the volume have been prepared in a somewhat hasty manner, in order to render the information collected immediately available for the use of the English expedition about to be dispatched to the same regions. But as in most cases the complete original records are also published, such further use can be made of them as may be desirable.

I have the honor to be, sir, very respectfully, &c.,

EMIL BESSELS,

Chief of Scientific Department United States Arctic Expedition.

Prof. JOSEPH HENRY, LL. D.,

President of the National Academy of Sciences.

CONTENTS.

ERRATA.

Atmospheric Pressure:

Page 40, line 21, read "April" instead of "May."

Page 40, line 22, read "$30^{in.}$ 2109, during April," instead of "$29^{in.}$ 9341 during November."

Page 40, line 28, omit "which is not at all likely."

Face of the Sky and State of Weather:

Page 64, line 17, read "mostly" instead of "nearly entirely."

Pendulum Experiments:

Page 2, line 3, read "very nearly" instead of "exactly."

Page 3, line 3, read "test" instead of "tell."

Psychrometrical Tables:

Page 3, line 24, read "ВСПОМОГАТЕЛЬНЫЯ" instead of "ВСПОМОГАТЕЛЬЯ."

HYDROGRAPHY.

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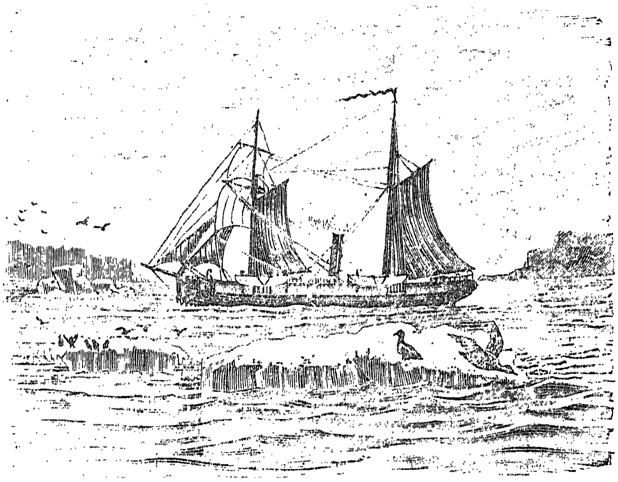
PASSAGE.



The Polaris.

The United States steamer Polaris, a fore-topsail schooner of three hundred and eighty-seven tons, commanded by the late C. F. Hall, left the Washington navy-yard at 12^h 30^m p. m., June 10, 1871, bound for Brooklyn, where she dropped anchor June 14 at 7^h 30^m a. m. After having been made ready for sea she left this port the evening of the 29th, making New London Harbor the following morning, where she remained until July 3. Making sail at day-break she left the harbor, and, after having passed Rave Rock at 5^h 20^m, shaped her course for New Foundland, reaching St. John's Harbor near noon July 11, where she remained till the 19th.

The first port made in Greenland was Fiskernaes, in latitude 63° 5′ N., longitude 55° 32′.5 W., where the vessel dropped anchor in the afternoon of July 27, and remained till day-break July 29. Coasting along the steep cliffs, Holsteinburg, in latitude 66° 57′ N., longitude 53° 53′.7 W., was reached on July 31 at 10^h a. m. Thence she started again August 3 at 2^h p. m., arriving, 24 hours later, at Goodhavn, in latitude 69° 14′.7 N., longitude 53° 34′ W. Here she had to await the arrival of the United States steamer Congress, a supply-vessel dispatched from New York. Having coaled up and taken the stores on board, she left Goodhavn August 12 at 2^h p. m. and dropped anchor at Upernivik, in latitude 72° 46′ N., longitude 56° 2′ W., the following day at 11^h 30^m p. m. She put to sea again on the 21st at 8^h 30^m p. m., reached Kingigtok Island at 11^h p. m., where she stopped for two hours, and then she made her way to Tassiussak, latitude 73° 21′ N., longitude 56° 5′.7 W., dropping anchor at 5^h 30^m a. m. on the 22d. Leaving this place, the most northern settlement of white men on the globe, at 2^h 15^m p. m. on the 24th, her course was shaped to the westward across Melville Bay. With the exception of a number of bergs scarcely any ice was met with, and at noon the next day she found herself in latitude 75° 56′ N., longitude 69° 26′.5 W., passing Conical Rock at a distance of about 12 miles at about 1^h p. m. and Cape Dudley Digges one hour later. At eight in the evening Granville Bay was opened, and at 9^h the vessel was surrounded by broken ice, through which she steamed without any difficulty, passing Fitz Clarence Rock at 11^h 10^m. Her position at noon on the 27th of August was latitude 77° 51′ N., longitude 73° 41′ W., and at 3^h p. m. she doubled Cape Alexander, thus entering Smith Sound. At 4^h 37^m Port Foulke was passed, at 6^h 50^m Cairn Point, and at eight in the evening she found herself abreast of Van Rensselaer Harbor, shaping her course more to the northward and heading for Cape Frazer, a prominent landmark on the east coast of Grinnell Land, which was doubled at 8^h 30^m a. m. August 28, after a boat had landed to examine a small bight in the coast. Her position on the same day at noon was latitude 80° 3′ N., longitude 69° 28′ W. Half an hour later Cape Norton Shaw, the south cape of Scoresby Bay, was sighted, and at 2^h 30^m she doubled Cape McClintock. Following the trend of the coast at an average distance of from 8 to 10 miles she passed between Hans Island, latitude

80° 48′ N., and the main land at 12^h 30^m a. m., August 29. As a dense fog was settling, the vessel was made fast to an ice-floe at about 8^h a. m., and when it began to clear toward noon she was cast off again. A meridian altitude of the sun placed her in latitude 81° 20′ N. (longitude 64° 34′ W.), which was the northernmost position determined astronomically at sea. From here Robeson Channel appeared to be land-locked toward the north, but steaming on for about 5 miles the land toward the east and west began to recede, and the channel was opened again. The atmosphere being most of the time hazy or obscured by dense fog, the vessel steamed north at an average speed of about 6 knots, keeping somewhat nearer to the east coast of the channel than to the west coast, and passing but little ice. As the fog grew denser and denser, and as considerable ice appeared, she was made fast to an ice-field about 6 miles in length at 9^h 35^m a. m. August 30, where she remained till 7^h 15^m in the evening. At 8^h 55^m a boat crossed over to a little bay, now known as Repulse Harbor, but was prevented from landing by the swift tidal current. As it was growing thicker the vessel was moored to a floe at 11^h 30^m p. m., getting under way once more at 6^h a. m., on the 31st. At 7^h 50^m she had to be made fast again on account of fog, and when it cleared toward 9 o'clock she was under steam again. In the course of the afternoon another attempt was made to land at Repulse Harbor, which proved more successful; but as the little bight was filled with ice, and as it was open to the north winds, it was not considered to be fit for an anchorage.

Since the pack north of Repulse Harbor apparently stretched across the channel, the vessel was headed west, when she found herself in latitude 82° 16′ N., longitude 60° 3′ W., with the intention to attempt to get north along the coast of Grinnell Land. Dense fog prevailing after 5 o'clock, she was made fast to a floe at 5^h 30^m, where she had to remain till 9^h 25^m the next morning (September 1), but scarcely had she been under way for 35 minutes when it grew thick again, and she had to be tied up once more, getting beset a short time afterward when the tide began to run flood. It continued to be more or less foggy until the evening of September 4, the vessel drifting apparently south during the whole time she was made fast to the floe. When it cleared, at about 8^h p. m., the remainder of the provisions that had been previously landed on the floe was taken on board again; the vessel was cast off at 8^h 45^m and stood in for the east coast of the channel.

At 12^h 30^m a. m., September 4, she anchored in Polaris Bay, in latitude 81° 36′.4 N., longitude 62° 15′ W., in thirteen fathoms of water, under the protection of a large berg and some grounded ice, named Thank God Harbor, where she was prepared for winter-quarters. As a place of such character can scarcely be termed a harbor, since the iceberg, named Providence Berg, broke to pieces under our own eyes, and as the fragments are very likely dissipated by this time, we are perforce compelled to adopt the name Polaris Bay as the only one applicable to the permanent features of the locality.

A heavy gale from the northeast broke the ice on November 20, and, setting it adrift, the vessel swung to her anchor and against the berg in question, which latter, in the course of the winter, was pressed farther and farther toward the shore. The Polaris, lying between the two and resting on a projecting tongue of the berg, heeled over at every low tide, sometimes as much as thirty degrees. The perpetual strain thus produced started her stem and sprang a leak, which crippled all further progress of the expedition.

During the latter part of June, 1872, the Polaris was sawed out and bore up for home August 12. In making her way through Kennedy Channel she got beset three days later, and drifting south to about latitude 8° 1′ N., longitude 75° W., the ice round her suddenly parted during the night of October 15. While in this rather precarious position, a portion of her crew and most of her provisions were landed on the floe, to which she was moored. Under the combined influence of a strong southwest gale and a swift tidal current she parted her hawsers and got separated from the portion of the crew that had been landed on the floe. The following morning she found herself north of her previous position, almost abreast of Life-boat Cove, where she was beached, in latitude 78° 23′.4 N., longitude 72° 51′ W. In the spring of 1873 two boats were built of a portion of her timber, and leaving Polaris House June 3 the fourteen survivors were picked up by the Scotch whaling-ship Ravenscraig on the 23d in the vicinity of Cape York. After having been able to get clear of the ice of Melville Bay, the Ravenscraig crossed over to the west side of Baffin Bay, and in steaming through Lancaster Sound she fell in with the whaling-ship Arctic, from Dun-

dee, on July 7. A portion of the officers and crew of the Polaris was transferred to Captain Adams's vessel, and afterward, when Captain Allen met the Intrepid, the officer in command of the latter kindly took another portion on board. The track of the Arctic, as far as it refers to the meteorological observations taken on board of this vessel, is laid down on the map accompanying this volume.

CONDITION OF THE ICE.

A critical examination of the history of arctic exploration demonstrates the fact that the scope of the different discoveries made by means of vessels is in inverse proportion to the extent of the ice toward the region of departure, while that of sledge-traveling is governed almost solely by the condition of the ice, whether smooth or hummocky, stationary or drifting, compact or intersected by lanes of open water. It will furthermore be seen that the extent of the ice is not only subject to great changes during the different seasons of one and the same year, but that it also varies in different years, according to the normal or anomalous march of the temperature of the locality in question, to the direction of the prevailing winds in the vicinity, and to other influences only partly known, and whose study would well repay for the time spent in their investigation.

As we propose to give some results relating to this subject in the second volume of this publication, where we shall dwell more in detail on the glacial system of Greenland, and of the arctic region in general, we shall limit ourselves here to the observations made during the expedition.

In steaming north, after having left Tassiussak, the first pack was met with between 11^h and 12^h p. m., August 27, in about latitude 79° 3′ N., longitude 72° W., stretching apparently across the sound. Following a lead, the vessel soon found herself in tolerably clear water, extending along the coast of Grinnell Land. After having passed the eightieth parallel the quantity of ice diminished, and but very few bergs were seen north of this latitude. During the forenoon of August 29 some old floes made their appearance, to one of which the vessel was made fast for several hours on account of dense fog. Having been unmoored, she steamed north again, meeting larger quantities of ice only occasionally, till she found herself north of latitude 82°, when she fell in with heavy fields and high hummocks, intersected by minor lanes of water, and stretching across Robeson Channel near latitude 82° 16′ N. From the deck of the vessel the barrier appeared more or less solid, but dense clouds of frost-smoke hung to the north of it, and from the crow's-nest a considerable body of open water could be seen.

As it seems, Robeson Channel, Hall's Basin, Kennedy Channel, Smith Sound, and Smith Strait are never entirely frozen over; at least, it was always possible to detect open water in one or the other direction, both during our stay at Polaris Bay and at Polaris House. If we take the prevailing direction and force of the wind into consideration, and if we remember that the different channels above mentioned are narrow, and, comparatively speaking, very deep, thus giving occasion to a swift tidal current, we can scarcely expect anything else. During the winter and spring of 1871–'72 the only stationary ice near our winter-quarters was found along the shore, extending in a narrow belt from a few miles north of Cape Lupton, along the shores of Polaris Bay, to the mouth of Petermann's Fjord, and growing very hummocky near Cape Lucie Marie. South of Cape Morton, along the northwest coast of Petermann's Peninsula, it was found a little smoother in April, 1872, although intersected by lanes of water, while there was scarcely an ice-foot along John Brown Coast, and a traveling party, trying to reach Cape Constitution, was stopped by open water, and had to return. As far as the observations made at Polaris Bay and Newman Bay go, the ice in the channel was adrift during the greatest portion of the time; it was stationary only on a few occasions, during March, when the temperature was low, and when there was not much wind. Owing to the combined action of currents and winds, the ice forming in deep channels, flanked by steep shores, will always be found hummocky; and, indeed, that of Robeson Channel and Hall's Basin was of the worst description. It was rougher than that of Smith Straits, the bad condition of which prevents the natives living near Cape Alexander from crossing the strait, scarcely 30 miles wide, and from communicating with the Eskimos inhabitating the region of Ellesmere Land, near Cape Isabella.

It would lead us too far to give a detailed account of the condition of the ice during the time spent at the winter-quarters of the expedition. It will be sufficient to state that, during spring

and summer of 1872, the sea in Hall's Basin and Robeson Channel was in such a condition that, during the navigable season, the lanes of open water intersecting the ice were scarcely wide enough to permit a boat to be launched, while they were too numerous and the ice too rough to encourage sledge-traveling. In Hall's Basin the drift of the ice was in most instances southerly, accelerated by northeast winds and the flood-tide, which runs stronger than the ebb. The influence of the latter is less marked, and it was only when the returning ebb was accompanied by southerly winds that the ice drifted with the same velocity in a northerly direction as in the opposite one. During the stay of the boat-party at Newman's Bay the prevailing direction of the drift was likewise southerly, with the exception of a few occasions during the time of spring-tides, when a slow motion in the opposite direction could be noticed for a few hours at a time.

In a number of instances a strong westerly set was observed during the latter part of June and during July. While it was apparently calm, the ice could be seen to drift in great quantities from Polaris Bay to the coast of Grinnell Land, disappearing, as it seemed, in Lady Franklin Bay. As the set was so strong, and as the same ice was never seen to return, these observations led to the supposition that the bay in question was actually a strait. This view is supported by the observations made from the height of Polaris promontory, whence Mount Grinnell could be seen to be isolated from the main land, looking like an island, behind which an ice-horizon could plainly be distinguished.

During the latter part of the summer of 1872 the condition of the ice was less favorable to navigation than during the preceding year. As stated before, the Polaris, when on her way home, was beset in Kennedy Channel, and drifted out of Smith Strait. From the 16th of August till the middle of September lanes of open water of greater or less extent could be noticed almost daily along the coast of Grinnell Land, but it was impossible to reach them with the vessel. The presence of open water along the west coast of a channel swept by a southerly current appears to be rather abnormal, as, according to theory, we might reasonably expect the contrary. The observations on hand that might throw some light on this subject are, unfortunately, too few to enable us to offer an explanation, but we shall see hereafter that the open water cannot have been produced by high temperatures of the sea, as the latter were never much above the freezing-point. The only possible assumption we can make is that the depth of the water along the coast is more considerable than in the middle of the channel. In this manner the current would attain a greater velocity near the shore. It would carry the ice south as far as Cape Frazer, where the coast takes a more westerly trend, and where an accumulation along the shore is prevented by causes that are too obvious to be dwelt upon.

We shall now consider in brief the condition of the ice in Smith Sound, based on observations made during our stay at Polaris House, from October, 1872, till June, 1873.

A glance at the map accompanying this volume will show that the position of our second winter-quarters is but a few miles north of Port Foulke, the harbor of the Hayes expedition in 1860 and 1861, and the state of the ice in our case was very similar to that observed by Hayes ten years before; Smith Strait and a portion of Smith Sound being partly open during the greater portion of the winter and spring. If we are justified in drawing conclusions in regard to the state of the ice in Kennedy Channel, or perhaps Hall's Basin, from the motion of the ice in Smith Sound, we might judge that there must have existed a solid barrier stretching somewhere across one of these straits, as with scarcely any exception southerly winds would block the sound, while northeasters would produce much open water. If this barrier did not exist, then the area of ice carried north by the southerly (mostly southwest) winds must have either been greater at the time than the area of open water, or we might suppose that the winds north of Smith Sound blew from such a direction at the time as to counteract the influence of the southwest winds, under the force of which the ice drifted north.

The open water found by Hayes during 1860 and 1861 was attributed by Petermann * to the influence of the Gulf Stream; but we shall demonstrate hereafter that there is nothing whatever to support this view; that there is not the slightest trace of a warm current in the vicinity of Smith Sound; in fact, that the only permanent current existing there is setting south. Any currents in the opposite direction, as mentioned by Inglefield and others, are merely produced by the flood-

* Dr. A. Petermann: Das Noerdlichste Land der Erde. Petermann's Geogr. Mittheilungen, April, 1867, p. 186.

tide, or perhaps by the difference that might exist at certain times between the specific gravity of water of Baffin Bay and that of Smith Sound. Before going any further we take occasion to repeat that the open water found in Smith Sound and north of this region is solely due to the effect of the winds and to the considerable depth of the narrow channels, giving origin to swift tidal currents. Had the meteorological observations made by the Hayes expedition been published when Petermann wrote the paper alluded to, the learned geographer would never have been tempted to show that the Gulf Stream sweeps the eastern shores of Smith Sound.

It only remains now to give a short description of the ice as found during the journey of the boat-party from Polaris House to Melville Bay. At the same time we think it advisable to dwell awhile on our observations made in regard to this subject in Lancaster Sound and vicinity, when on board the Arctic. The latter can be done very briefly, as the bihourly meteorological observations made on board that vessel (compare the chapter "Meteorological Observations taken at Sea," p. 24) contain all the details that can be desired.

When the boats left Polaris House June 3, 1873, they coasted at a distance of from 1 to 4 miles from the shore in clear water, meeting floating hummocks only occasionally, although the pack was in sight nearly all the time to the west. In regard to the condition of the latter, it is scarcely possible to pass any opinion, as ice sighted from a distance may appear as a solid barrier, while in reality it may be intersected by numerous lanes of open water, through which vessels can pass without any difficulty.

Arriving at Cape Saumarez the solid land-floe was met with stretching in the meridian of this cape almost as far south as Northumberland Island. To the northwest of this island and of Hakluyt Island, a considerable pack had accumulated, through which the boats had to force their way in order to effect a landing on Hakluyt. Owing to the ice that blocked the strait running about northeast and southwest between these two islands, and to the pack that had accumulated to the south of them, the progress was very slow, and the boats were detained from the evening of June 4 until the morning of the 12th, when the ice dispersed. Between 8h and 9h p. m. of this day Blackwood Point was reached, the boats meeting more or less loose ice during the whole of their passage, the most being encountered off Whale Sound, which was still covered by the solid floe, which stretched from a little north of Cape Parry along the shore and across Booth Sound to Blackwood Point. For about 8 miles south of this latter locality the coast was perfectly clear of ice, beyond which the fast land-floe was encountered stretching to the northwesternmost extremity of Sounders Island and then in the direction of the meridian to the eastern portion of the north coast of Wolstenholme Island, while Dalrymple Rock was accessible. The floe appeared again at the southeast point of Wolstenholme, stretching southwest to about longitude 72° 5′. As the boats' track from Wolstenholme Island to Cape York led always along the margin of the land-floe, a glance at the map will show how far the latter, which was very level, extended from the coast.

Concerning the region of Lancaster Sound and vicinity, the season of 1873 must be termed a very favorable one to navigation. During July and the first half of August there was scarcely enough ice in Lancaster Sound to prevent a vessel from sailing anywhere between longitudes 80° and 90° W. The only unbroken floe-ice met with stretched across the mouth of Admiralty Inlet, while Prince Regent Inlet was open enough to permit the Arctic almost to reach latitude 72° N. When off Pond's Inlet, July 14 and 15, the fast land-floe could be noticed to extend from a short distance south of Cape Burney to Cape Bowen; but we learned afterward that some vessels of the whaling-fleet found the mouth of the inlet clear at the beginning of August. On the 18th of this month the Arctic was in latitude 72° 43′ N., longitude 69° 24′ W., working south through more or less ice, a short distance east from the land-floe, which extended from Cape Adair to Agnes Monument in the shape of a belt, from 8 to 15 miles wide on the average. The river Clyde seemed to be open, but the floe was met with again at Cape Hewett, extending along the whole coast to a short distance south of Cape Kater. On the 25th the vessel steamed north through loose ice until the 30th, and when in latitude 71° 32′ N., longitude 66° W., her course was shaped westerly; she had to force her way through heavy ice, gaining the open water at about noon the next day. The last ice seen during the rest of the passage was a huge berg met with at midnight of the 31st in about latitude 70°. 5 N., longitude 61°. 3 W.

DENSITY AND TEMPERATURE OF THE SEA-WATER AND REMARKS ON CURRENTS.

Density and temperature.—From the day the expedition left the United States a series of observations was begun to determine the density of the sea, and, in connection with these observations, the temperature of the water was measured likewise. The observations in question were taken more frequently than the meteorological observations proper, and were made at more or less irregular intervals, according to the opportunities offered. After having crossed the arctic circle, the density of the water was determined at least every other hour, and when near the ice or among the same, or when the vessel crossed alternate bands of cold and warm water, the observations were taken more frequently, sometimes as often as every ten minutes.

The instruments used were very delicate hydrometers, made expressly for the expedition by Mr. Tagliabue, of New York. They were graduated from 0.990 to 1.050, giving direct indications to the third decimal, and as the length of each division was about 0.35 centimeters, the fourth decimal could easily be estimated with accuracy. The readings were taken on board the vessel, and although the cylinder into which the hydrometer was immersed, when in use, was not suspended on gimbals, as might have been done, the accuracy of the readings was scarcely affected, as there is usually but little swell among the ice. In order to eliminate the influence of capilarity, the observer in reading off sighted the scale of the hydrometer below the surface of the water, which was done repeatedly, and the mean of several readings taken, which never differed as much from each other as to amount to a whole unit in the fourth decimal. We were satisfied to measure the temperature of the water but once, that is immediately after it had been brought up on deck, and we assumed the temperature to remain the same until the specific gravity was ascertained. Usually the water was hoisted by means of a bucket, but in some instances, when there was too much ice packed round the vessel, a water-bottle was let down and filled about 3 feet below the surface.

The following table contains the observations made in Smith Sound during the drift of the vessel in 1872. Unfortunately, by far the greater portion of those taken during the passage north are lost. Those of the determinations referring to the surface-water were made by Mr. Meyer and the writer, while the specific gravities at the different depths were ascertained by the latter. It may be well to mention that the column headed "Specific gravity reduced" contains the densities, referred to 59° Fahr.,* and corrected for the expansion of the glass hydrometer.

Date.	Latitude.	Longitude.	Time.	Temperature of the air.	Surface of the sea.		Specific gravity reduced.	Depth.			Specific gravity reduced.	Remarks.
					Temperature.	Specific gravity.		Soundings.	Temperature.	Specific gravity.		
				°	°							
Aug. 12			8h p. m.	32.7	31.2	1.0222	1.0206	....	....	....	....	Heavy pack.
			9	31.5	31.5	....	....	....	....	....	....	Do.
			10	31.6	30.9	....	....	....	....	....	....	Do.
			11	30.7	31.0	....	....	....	....	....	....	Do.
Aug. 13			0 a. m.	30.8	31.4	1.0265	1.0249	....	....	....	....	Considerable ice.
			1	30.6	31.0	....	....	....	....	....	....	Do.
			2	30.6	30.8	....	....	....	....	....	....	Do.
			3	31.8	30.7	....	....	....	....	....	....	Do.
			4	36.1	30.9	1.0265	1.0249	....	....	....	....	Heavy pack.
			5	36.5	30.8	....	....	....	....	....	....	Do.
			6	34.1	30.8	....	....	....	....	....	....	Do.
			7	37.2	30.7	....	....	....	....	....	....	Do.
			8	40.6	30.0	1.0260	1.0244	69	33.1	1.0259	1.0243	Do.
			9	39.4	30.6	....	....	....	....	....	....	Do.
			10	38.8	30.4	....	....	....	....	....	....	Do.
			11	36.6	30.5	....	....	....	....	....	....	Do.

*Die Zweite Deutsche Nordpolfahrt, in den Jahren, 1869 und 1870. Leipzig, 1874. Zweiter Band, Zweite Abtheilung, p. 678.

As our manuscript was already finished, and partly in the hands of the printer, when this volume was published, we could not make as extensive use of it as we might have done under other circumstances.

Table—Continued.

Date.	Latitude.	Longitude.	Time.	Temperature of the air.	Surface of the sea.		Specific gravity reduced.	Depth.			Specific gravity reduced.	Remarks.
					Temperature.	Specific gravity.		Soundings.	Temperature.	Specific gravity.		
	° ′	° ′		°	°				°			
Aug. 13	80 48	66 05	Noon.	37.9	30.8	1.0263	1.0247	....	......	....	....	Heavy pack.
			1h p. m.	42.9	30.8	....	....	....	......	....	....	Do.
			2	44.6	30.4	....	....	....	......	....	....	Do.
			3	43.1	30.9	....	....	....	......	....	....	Do.
			4	39.3	31.0	1.0255	1.0239	....	......	....	....	Do.
			5	33.2	31.0	....	....	....	......	....	....	Do.
			6	33.5	30.9	....	....	....	......	....	....	Do.
			7	33.8	30.6	1.0258	1.0242	*203	32.8	1.0281	1.0265	Do.
			8	32.6	30.4	....	....	6	31.3	1.0255	1.0239	Do.
			9	32.7	30.5	....	....	18	31.7	1.0258	1.0242	Do.
			10	31.4	30.6	....	....	30	32.0	1.0261	1.0245	Do.
			11	31.6	30.0	....	....	50	32.1	1.0261	1.0245	Do.
Aug. 14			0 a. m.	30.6	29.8	1.0235	1.0219	....	......	....	....	Do.
			1	30.8	29.6	....	....	....	......	....	....	Do.
			2	33.6	29.8	....	....	....	......	....	....	Do.
			3	31.8	30.0	....	....	....	......	....	....	Do.
			4	31.5	30.0	1.0252	1.0236	....	......	....	....	Do.
			5	32.6	30.0	....	....	....	......	....	....	Do.
			6	34.4	30.3	....	....	....	......	....	....	Do.
			7	37.0	30.1	....	....	....	......	....	....	Do.
			8	34.8	30.0	1.0256	1.0241	....	......	....	....	Do.
			9	36.4	30.8	....	....	....	......	....	....	Do.
			10	36.7	30.7	....	....	....	......	....	....	Do.
			11	36.6	30.1	....	....	....	......	....	....	Do.
			Noon.	......	......	....	....	....	......	....	....	Do.
			1h p. m.	37.4	30.8	1.0256	1.0241	....	......	....	....	Considerable ice.
			2	35.8	30.9	....	....	....	......	....	....	Do.
			3	34.8	29.6	....	....	....	......	....	....	But little ice.
			4	35.6	29.7	1.0262	1.0246	....	......	....	....	Do.
			5	35.2	31.2	....	....	....	......	....	....	Pack ice.
			6	34.4	31.1	....	....	....	......	....	....	Do.
			7	35.3	30.2	....	....	....	......	....	....	But little ice.
			8	35.1	31.0	1.0261	1.0245	....	......	....	....	Do.
			9	35.9	31.6	....	....	....	......	....	....	Do.
			10	35.9	31.5	....	....	....	......	....	....	Very heavy pack.
	80 02	68 01	11	35.2	31.6	....	....	....	......	....	....	Do.
Aug. 15			0 a. m.	33.4	30.0	1.0252	1.0236	....	......	....	....	Do.
			1	32.9	29.8	....	....	....	......	....	....	Do.
			2	29.6	29.7	....	....	....	......	....	....	Do.
			3	29.9	29.8	....	....	....	......	....	....	Do.
			4	......	......	....	....	....	......	....	....	Do.
			5	30.4	30.0	1.0246	1.0230	....	......	....	....	Heavy pack.
			6	31.4	30.0	....	....	....	......	....	....	Do.
			7	32.2	29.8	....	....	....	......	....	....	Do.
			8	33.6	29.9	1.0242	1.0226	....	......	....	....	Do.
			9	34.0	30.4	....	....	....	......	....	....	Do.
			10	34.4	29.8	....	....	....	......	....	....	Do.
			11	39.8	29.8	1.0263	1.0247	....	......	....	....	But little ice.
	80 04	68 06	Noon.	36.6	32.0	....	....	....	......	....	....	Do.
			1h p. m.	37.3	31.4	....	....	....	......	....	....	Do.
			2	35.8	31.5	....	....	....	......	....	....	Do.
			3	35.4	30.4	....	....	....	......	....	....	Do.
			4	35.2	30.3	1.0254	1.0238	....	......	....	....	Do.
			5	34.9	30.3	....	....	....	......	....	....	Considerable ice.
			6	37.1	30.4	....	....	....	......	....	....	Do.
			7	36.6	30.2	....	....	....	......	....	....	Do.
			8	36.1	31.7	1.0261	1.0245	....	......	....	....	Do.
			9	34.6	30.8	....	....	....	......	....	....	Do.
			10	33.6	30.5	....	....	....	......	....	....	Do.
			11	33.0	30.6	....	....	....	......	....	....	Do.
Aug. 16			0 a. m.	32.3	30.8	1.0252	1.0236	....	......	....	....	Do.
			1	33.7	30.5	....	....	....	......	....	....	Do.
			2	32.1	30.7	....	....	....	......	....	....	Do.
			3	32.7	30.0	....	....	....	......	....	....	Do.
			4	33.4	30.4	1.0250	1.0234	....	......	....	....	Do.
	79 59	68 07	11	36.1	30.7	....	....	....	......	....	....	Do.

* Sounding of 203 fathoms doubtful, as the line was too heavy compared with the lead.

Table—Continued.

Date.	Latitude.	Longitude.	Time.	Temperature of the air.	Surface of the sea. Temperature.	Surface of the sea. Specific gravity.	Specific gravity reduced.	Depth. Soundings.	Depth. Temperature.	Depth. Specific gravity.	Specific gravity reduced.	Remarks.
	° ′	° ′		°	°				°			
Aug. 19			8^h p. m.	36.4	30.1	1.0270	1.0254	......	......	......	......	Heavy pack.
			9	36.4	30.3	......	......	......	......	......	......	Do.
			10	33.0	29.9	......	......	......	......	......	......	Do.
	79 43	70 04	11	34.6	30.1	......	......	......	......	......	......	Do.
Aug. 20			0 a. m.	33.9	30.2	1.0272	1.0256	......	......	......	......	Do.
			1	34.3	30.3	......	......	......	......	......	......	Do.
			2	34.4	30.0	......	......	......	......	......	......	Do.
			3	34.1	29.7	......	......	......	......	......	......	Do.
			4	33.3	29.7	1.0275	1.0259	......	......	......	......	Do.
			5	33.3	29.8	......	......	......	......	......	......	Do.
			6	34.3	30.1	......	......	......	......	......	......	Do.
			7	36.2	29.9	......	......	......	......	......	......	Do.
			8	35.7	30.9	1.0288	1.0272	......	......	......	......	Do.
			9	36.2	30.6	......	......	......	......	......	......	Do.
			10	35.5	30.0	......	......	......	......	......	......	Do.
			11	35.4	30.3	......	......	......	......	......	......	Do.
			Noon.	36.1	30.5	1.0299	1.0288	......	......	......	......	Do.
			1^h p. m.	......	......	......	......	......	......	......	......	Do.
			2	36.6	30.7	......	......	......	......	......	......	Do.
			3	36.8	30.7	......	......	......	......	......	......	Do.
			4	36.3	30.3	1.0242	1.0226	......	......	......	......	Do.
			5	41.6	30.4	......	......	......	......	......	......	Do.
	79 42	70 39	6	37.9	30.1	......	......	......	......	......	......	Do.
			7	35.5	29.8	......	......	......	......	......	......	Do.
			8	34.2	29.8	1.0253	1.0237	......	......	......	......	Do.
			9	33.2	30.0	......	......	......	......	......	......	Do.
			10	32.7	30.1	......	......	......	......	......	......	Do.
			11	31.9	30.1	......	......	......	......	......	......	Do.
Aug. 21			0 a. m.	33.7	30.1	1.0253	1.0237	......	......	......	......	Do.
			1	33.6	30.2	......	......	......	......	......	......	Do.
			2	34.1	29.9	......	......	......	......	......	......	Do.
			3	32.6	29.7	......	......	......	......	......	......	Do.
			4	32.8	29.9	......	......	......	......	......	......	Do.
			5	33.8	29.6	......	......	......	......	......	......	Do.
			6	34.4	30.3	......	......	......	......	......	......	Do.
			7	36.1	31.1	......	......	......	......	......	......	Do.
			8	38.2	30.6	1.0234	1.0218	......	......	......	......	Do.
			9	42.9	30.9	......	......	......	......	......	......	Do.
			10	46.9	31.3	......	......	......	......	......	......	Do.
			11.30	42.7	30.7	......	......	10	34.1	1.0263	1.0247	Do.
			11.40	......	......	......	......	20	31.9	1.0266	1.0250	Do.
			11.50	......	......	......	......	30	32.1	1.0269	1.0253	Do.
	79 39	70 17	Noon.	......	......	......	......	40	31.6	1.0272	1.0256	Do.
			0^h 10 p. m.	......	......	......	......	50	31.9	1.0261	1.0245	Do.
			0 20	......	......	......	......	62	32.0	1.0262	1.0246	Do.
			0 30	42.3	30.2	1.0242	1.0226	74	35.2	1.0281	1.0265	Do.
			0 40	......	......	......	......	86	31.4	1.0272	1.0256	Do.
			0 50	......	......	......	......	10	34.0	1.0264	1.0248	Do.
			3 30	......	......	......	......	94	32.0	1.0285	1.0269	Do.
								(Bottom.)				
Aug. 23			8 a. m.	36.7	31.1	1.0184	1.0168	......	......	......	......	Do.
			9	38.0	31.3	......	......	......	......	......	......	Do.
			10	39.9	30.9	......	......	......	......	......	......	Do.
			11	38.5	31.0	......	......	......	......	......	......	Do.
	79 37	69 10	Noon.	......	......	......	......	......	......	......	......	Do.
			7^h p. m.	......	30.3	1.0252	1.0236	83	30.8	1.0279	1.0263	Do.
Aug. 25			8 a. m.	36.4	30.0	1.0259	1.0243	......	......	......	......	Do.
			9	37.6	30.1	......	......	......	......	......	......	Do.
			10	41.8	30.3	......	......	......	......	......	......	Do.
			11	43.4	30.6	......	......	......	......	......	......	Do.
	79 36	69 02	Noon.	38.4	31.0	......	......	......	......	......	......	Do.
			1^h p. m.	41.3	31.2	1.0143	1.0129	......	......	......	......	Do.
			2	36.6	31.3	......	......	......	......	......	......	Do.
			3	35.8	31.2	......	......	......	......	......	......	Do.
			4	32.1	31.3	1.0235	1.0219	......	......	......	......	Do.

Table—Continued.

Date.	Latitude.	Longitude.	Time.	Temperature of the air.	Surface of the sea. Temperature.	Surface of the sea. Specific gravity.	Specific gravity reduced.	Depth. Soundings.	Depth. Temperature.	Depth. Specific gravity.	Specific gravity reduced.	Remarks.
	° ′	° ′		°	°				°			
Aug. 25			5h	31.6	30.6							Heavy pack.
			6	31.4	30.6							Do.
			7	30.0	30.3							Do.
			8	28.7	30.1	1.0253	1.0237					Do.
			9	28.5	30.0							Do.
			10	27.6	29.8							Do.
			11	26.1	30.1							Do.
Aug. 26			0 a.m.	25.6	30.2	1.0259	1.0243					Do.
			1	25.6	30.2							Do.
			2	26.6	30.1							Do.
			3	27.8	30.2							Do.
			4	25.8	29.3	1.0249	1.0233					Do.
			5	26.5	29.6							Considerable ice.
			6	27.6	29.3							Do.
			7	29.1	29.4							Do.
			8	30.8	30.9	1.0203	1.0187					Do.
			9	31.2	30.0							Do.
			10	32.5	30.1							Do.
			11	33.1	30.9							Do.
	79 36	69 01	Noon.	32.6	29.9	1.0247	1.0231					Do.
			1h p.m.	33.3	30.1							Heavy pack.
			2	34.6	30.1							Do.
			3	34.9	29.9							Do.
			4	35.0	30.2	1.0244	1.0228					Do.
			5	35.4	30.3							Do.
			6	35.6	30.3							Do.
			7	33.9	30.3							Do.
			8	34.6	30.2	1.0213	1.0197					Do.
			9	31.6	30.1							Do.
			10	31.5	30.1							Do.
			11	31.2	30.0							Do.
Aug. 27			0 a.m.	31.6	29.6	1.0230	1.0214					Do.
			1	30.0	29.6							Do.
			2	29.6	29.7							Do.
			3	29.4	29.9							Do.
			4	28.8								Do.
			5	30.6								Do.
			6	32.0	29.9							Do.
			7	33.4	30.2							Do.
			8	35.6	30.1	1.0214	1.0188					Do.
			9	35.4	30.3							Do.
			10	36.6	30.3							Do.
			11	37.7	31.4							Do.
	79 36	69 01	Noon.	39.6	31.1	1.0175	1.0159					Do.
			1h p.m.	38.4	30.6							Do.
			2	40.0	30.6							Do.
			3	39.3	31.1							Do.
			4	39.0	30.9	1.0195	1.0179					Do.
			5	39.6	31.0							Do.
			6	40.0	30.1							Do.
			7	35.4	31.4			91	30.1	1.0286	1.0270	Do.
			8	30.5	31.1	1.0194	1.0178					Do.
			9	29.6	30.9							Do.
			10	28.7	30.8							Do.
			11	27.9	30.9							Do.
Aug. 28			0 a.m.	27.6	30.2	1.0222	1.0206					Do.
			1	27.6	30.5							Do.
			2	29.6	30.4							Do.
			3	28.6	30.4							Do.
			4	27.5	31.1	1.0194	1.0178					Do.
			5	27.8	30.3							Do.
			6	29.7	30.5							Do.
			7	29.8	30.5							Do.
			8	32.6	31.1	1.0198	1.0182					Do.
			9	33.6	31.3							Do.

Table—Continued.

Date.	Latitude.	Longitude.	Time.	Temperature of the air.	Surface of the sea. Temperature.	Surface of the sea. Specific gravity.	Specific gravity reduced.	Depth. Soundings.	Depth. Temperature.	Depth. Specific gravity.	Specific gravity reduced.	Remarks.
	° ′	° ′		°	°				°			
Aug. 28			10^h a. m.	35.4	31.0	....	....	....	......	....	....	Heavy pack.
			11	34.9	31.4	....	....	....	......	....	....	Do.
	79 36	69 09	Noon.	38.9	31.4	1.0126	1.0110	....	......	....	....	Do.
			1^h p. m.	40.3	31.8	....	....	....	......	....	....	Do.
			2	40.3	31.6	....	....	....	......	....	....	Do.
			3	41.3	32.6	....	....	....	......	....	....	Do.
			4	39.5	32.5	1.0124	1.0108	....	......	....	....	Do.
			5	40.0	32.5	....	....	....	......	....	....	Do.
			6	35.6	32.3	....	....	....	......	....	....	Do.
			7	33.5	32.1	....	....	....	......	....	....	Do.
			8	32.1	31.3	1.0123	1.0117	....	......	....	....	Do.
			9	31.4	31.5	....	....	....	......	....	....	Do.
			10	29.8	31.3	....	....	....	......	....	....	Do.
			11	29.8	31.2	....	....	....	......	....	....	Do.

Taking the mean of the specific gravities, as measured at the surface of the sea in the region traversed between latitudes 81° and 79°.4 N., and longitudes 62° and 70°.8 W., from August 12 to August 28, we obtain the value 1.02155, being rather less than what we should expect to find *a priori*. This discrepancy appears less striking if we take into consideration the time during which the above observations were made, and remembering, furthermore, that they were all made in a rather narrow channel while the vessel was surrounded by ice, we can scarcely expect anything else. As during the period of time over which the above observations extend, the mean temperature of the air was only on two days a few tenths of a degree below the freezing-point, it was warm enough during the rest of the time to melt portions of the ice surrounding the vessel ; and hence we find the specific gravity of the sea to decrease.

If we calculate the daily means we obtain the values given in the column of specific gravities, opposite to which the number of observations will be found.

Date.	Specific gravity.	Number of observations.	Date.	Specific gravity.	Number of observations.
August 12	1.02060	1	August 21	1.02270	3
13	1.02450	6	23	1.02020	2
14	1.02380	6	25	1.02070	4
15	1.02370	6	26	1.02198	6
16	1.02350	2	27	1.01836	5
19	1.02540	1	28	1.01502	6
20	1.02563	6			

The highest mean of the series is that of August 20, namely, 1.02563, while the lowest is 1.01502, derived from the observations taken August 28. The absolute maximum density of the water of Smith Sound determined in any case was found at noon on August 20, amounting to 1.0288.

On examining the observations made during each of the above-named days separately, we perceive that the specific gravity of the sea is subject to considerable changes, which become more striking if we consider that, in some instances, the vessel scarcely changed her position during 24 hours. Supposing the sky to be clear, and the temperature of the air to be above the freezing-point, we might reasonably expect that the maximum density of the ice-covered sea would be attained some time after the occurrence of the minimum temperature of the day, and *vice versa*. A closer

examination of the above observations demonstrates, however, that in some cases the specific gravity was greater in the course of the afternoon than during the night, when the temperature of the air had reached its minimum; for instance, on August 20, when the density gradually increased from midnight till noon. It will be easy to perceive that irregularities of this kind are either due to currents, to the change of the tide, to the influence of the wind, or to a combination of these three causes. We shall demonstrate hereafter that two tidal waves meet near Cape Frazer, one coming from the north and the other from the south. In the former instance the lighter water from Robeson Channel and Hall's Basin and in the latter the heavier water from Baffins Bay will flow towards the region in question, where the greater portion of our observations were made, and most likely the irregularities will be partly due to this circumstance.

The observations on record that might be used to demonstrate the change of the specific gravity of the sea-water with the depth are but few in number, and are, in consequence of this, of but little value. The following table will show how they run:

Date.	Surface.	Depth.		Difference.	Date.	Surface.	Depth.		Difference.
		Fath.					*Fath.*		
August 13....	1.0244	69	1.0243	−0.0001	August 21.....	1.0226	40	1.0256	+0.0030
13....	1.0242	203	1.0265	+0.0023	21.....	1.0226	50	1.0245	+0.0019
13....	1.0242	6	1.0239	−0.0003	21.....	1.0226	62	1.0246	+0.0020
13....	1.0242	18	1.0242	±0.0000	21.....	1.0226	74	1.0265	+0.0039
13....	1.0242	30	1.0261	+0.0019	21.....	1.0226	86	1.0256	+0.0020
13....	1.0242	50	1.0261	+0.0019	21.....	1.0226	10	1.0248	+0.0022
21....	1.0226	10	1.0247	+0.0021	21.....	1.0226	94	1.0269	+0.0043
21....	1.0226	20	1.0250	+0.0024	23.....	1.0236	83	1.0279	+0.0043
21....	1.0226	30	1.0253	+0.0027	27.....	1.0178	91	1.0286	+0.0101

In general, the above values are in conformity with theory, as we perceive the specific gravity to increase with increasing depth; but it would require a much more extensive series of observations to show whether the discrepancies, as shown by the above table, are produced by under-currents, or whether the observations indicating a less specific gravity with increasing depth are at fault. We scarcely think the latter to be the case, as great care was always taken in bringing up the water-bottle, the valves of which were in perfect working order all the time.

Currents.—If we examine the current-system of Davis Strait and vicinity in its latest representation on Berghaus' Chart of the World, which embodies an admirable amount of details in the most elegant manner, we perceive the west coast of Greenland to be swept by a warm current. This warm current is represented as part of the Gulf Stream, consisting principally of two branches, the westernmost crossing the parallel of Cape Farewell between longitude 50° and 60° W., while the other sweeps the northwest coast of Iceland, whence it takes a westerly and southerly direction, and passing round Cape Farewell it joins the branch first mentioned. Sweeping the west coast of Greenland, it can be traced to Cape York, whence it sets west toward the entrance of Jones Sound, taking a southerly direction near Coburg Island, and disappearing near Lancaster Sound, from which we notice a cold current to issue, sweeping the shores of Baffin Land and Cumberland. In setting south it is joined by another cold current issuing from Hudson Strait, and, designated as Labrador Current, continues its way along this coast.

In addition to these two main currents, we notice two subordinate cold ones, one running across Davis Strait, near the 70th parallel, while the other, a branch of the East Greenland ice-stream, runs along the southwest coast of Greenland, between the latter and the warm current before mentioned, to about the Arctic Circle, one of its branches joining the Labrador Current near latitude 60°.

The materials on which the direction and velocity of these currents are based are derived from different sources, most of which are given in Petermann's elaborate paper on the Gulf Stream,* but evidently some portions were laid down by theory only.

It may be advisable, before going any further, to investigate briefly how much reliance can be placed in general in current-observations, made under ordinary circumstances in the arctic seas.

* Der Golfstrom und Standpunkt der thermometrischen Kenntniss des Nordatlantischen Oceans und Landgebietes im Jahre 1870 von A. Petermann. Geograph. Mittheilungen, Vol. XVI, 1870, Heft 6 und 7.

The vessels cruising in these waters are either discovery-ships, whalers, or a few trading-vessels of the Danish Commercial Company visiting annually the settlements on West Greenland.

With but a few exceptions, the discovery-ships are usually under strict orders to make certain points, and are, in such cases, not allowed to deviate from their course or to stop to make investigations; while the whalers, after they reach the ice, scarcely take any astronomical observations for determining their position, and invariably leave their log-line on the reel until they have again reached lower latitudes. If a discovery-ship is not bound by orders, her commander may then always have a certain aim which he can follow and to which he will make everything else subordinate; and unless this aim be the study of the physics of the sea, we can scarcely expect any accurate observations of this kind.

Cases like the latter are of rather rare occurrence, and there are but a few on record, the intention of the commanders of arctic exploring-vessels being in most instances to make such discoveries as would most strike the public mind. Unfortunately, however, the public cares very little whether a current sets north, south, east, or west, and this is one of the reasons that the number of reliable observations is so small. This small number was only made because nothing else could be done at the time, or because they had to be made, the vessel being beset in the ice, and at its mercy. But even if a vessel starts purposely to make the observations in question, she will, in a great many instances, have to encounter physical obstacles that render the observations less reliable, and often it will be quite impossible to make any.

The direction and velocity of currents are usually obtained by taking the difference between the position of the vessel, as found by dead reckoning, and the position as determined by astronomical observation; a less common method is that of making actual experiments which require considerable time and care. Owing to unavoidable errors of the dead reckoning, the former mode is far from accurate under ordinary circumstances, and it decreases in value if the vessel has to make her way through ice, when the log is rendered almost useless, and when she has to change her course so frequently that in some instances it is almost impossible to keep an accurate reckoning.

Those observations obtained when the vessel is beset in the ice and drifting are more valuable; but it is only under favorable circumstances that they give an accurate idea of the true velocity and direction of the current. If there are bergs scattered through the pack, the direction and velocity of the surface-current, as determined by two astronomical observations, may be considerably affected by under-currents acting on the submerged parts of the icebergs. If there is any wind blowing, it will act on the exposed portion of the berg as on a sail, and thus in many instances solely determine both the rate and direction of the drift. The latter may also be greatly affected by the action of the tide, especially if the vessel is beset in a narrow channel.

It is easy to perceive that if we were to examine critically the different observations on record we should have to reject a large number, while others would be of very little value, as in many cases it is quite impossible to determine how much of the drift is due to a permanent surface-current, how much to the tide, to the wind, or to under-currents.

The value of the few observations made by the expedition, and recorded hereafter, is very small, and we propose to deduce nothing more than general results. We shall first consider the drift of the vessel through Kennedy Channel and Smith Sound, based on the following table compiled from the log by Mr. Bryan:

Date.	Latitude north.	Longitude west.	Time of observation.	WIND.			
				0^h to 6^h a. m.	6^h a. m. to noon.	Noon to 6^h p. m.	6^h p. m. to 0^h.
	° ′	° ′					
Aug. 14	80 02	....	Midnight.	Light winds SW...	....	....	....
15	....	....	....	Calms	....	....	Light breeze NE.
16	80 01	....	6 a. m....	....	....	....	....
16	79 59	....	Noon.....	Calms	....	Light breeze S.	....
17	79 57	....	Noon.....	Calms	Fresh breeze N ..	Light breeze N	....
18	79 44	69 50	6 a. m....	Light breeze N	....	Calms	Light breeze N.
18	79 41	70 19	6 p. m....	....	....	....	....

Table—Continued.

Date.	Latitude north.	Longitude west.	Time of observation.	WIND.			
				0h to 6h a. m.	6h a. m. to noon.	Noon to 6h p. m.	6h p. m. to 0h.
	° ′	° ′					
Aug. 19				Light breeze N			Light wind S. and SW.
20	79 42		Noon	Light wind S	Wind SW	At 4 p. m., light breeze N.	Light breeze N.
20	79 42	70 39	6 p. m				
21	79 39	70 17?	Noon	Light airs N		Light breeze N	
22				Light airs and calms	8 a. m., light breeze S.		Fresh breeze SW.
23	79 37		Noon	Fresh breeze SW. up to 4 p. m., then calms and light airs.			
23	79 37	69 10	6 p. m				
24	79 36	69 07	6 a. m	Calms	Fresh breeze N		Calms
24	79 36		Noon				
25	79 36		Noon	Calms		Calms	Light breeze SW.
26	79 36		Noon	Light breeze SW		Light breeze S	Light breeze E.
27				Light winds E		Calms	Light wind S.
28	79 36	69 09	Noon and 6 p. m.	Light winds S		Light breeze E	
29	79 34	69 01	Noon and 6 p. m.	Calms			
30	79 35			Calms		Calms	
31				Calms		Light breeze S	Calms and light winds S.
Sept. 1				Light puffs from several points.		Light airs SW	
2				Light airs SW. and calms.		Light airs SW	Fresh breeze SW.
3	79 34	68 56	Noon and 4 p. m.	Fresh breeze SW	Light winds SW.	Light winds SW	
4	79 33		Noon	Light wind SW. until evening, then from the N.			
5	{ 79 33 / 79 32 }	{ 68 59 }	{ Noon and 4 p. m. }	Light airs N	Calm all the afternoon.		
6	79 32	68 59	Noon and 4 p. m.	Calms		Light winds S.	
7				Light winds SW		Light breeze N	Fresh breeze N.
8	79 30	69 22	Noon and 5 p. m.	Fresh breeze N. until late in afternoon.			Light breeze N.
9				Light wind N		Calm	Light breeze N.
10				Light wind N		Light breeze N	Fresh breeze N.
11	79 27		Noon	Fresh breeze N		Light breeze N	Light wind N.
12				Fresh wind N		Fresh breeze N	
13	79 25 ?		In afternoon by double altitudes.	Fresh breeze N		Fresh breeze N	
14	79 21	70 06	Noon and afternoon.	Light wind N		Calm	
15				Calms			Light breeze S.
16				Fresh wind S		Light breeze S	
17	79 20		Noon	Light airs and calms		Light wind NE	
18				Light breeze NE		Light breeze N	
19	79 19		Noon	Light breeze NE	Calms	Light breeze S	Light breeze N.
20				Light breeze N	Fresh breeze N., continued all the afternoon.		
21				Fresh breeze N	Breeze N., continued all the afternoon.		
22				Light breeze NE		Light airs N	
23				Light breeze N			Light breeze NE.
24	79 06		Noon	Light wind NE., continued during afternoon.			
25		70 40		Light wind NE	Light breeze S., continued during afternoon.		

Table—Continued.

Date.	Latitude north.	Longitude west.	Time of observation.	WIND.			
				0^h to 6^h a. m.	6^h a. m. to noon.	Noon to 6^h p. m.	6^h p. m. to 0^h.
	° ′	° ′					
Sept. 26	......	......	......	Fresh breeze SE	......	Light breeze S.	......
27	......	......	......	Light winds SW.	......	Fresh breeze SW	Strong breeze SW.
28	......	......	......	Fresh breeze W.	Light wind SW.	Light wind WSW.	......
29	......	......	......	Light wind NE.	Fresh breeze N. E., all through afternoon.	......	......
30	79 02	......	Noon.	Fresh breeze NE.	Light wind NE.	Calm.	Light airs NE.
Oct. 1	79 00	......	Noon.	Calms	Light airs from the N.	......	Light breeze NE.
2	78 59	70 45	At 11¼ p. m. by stars.	Light wind NE.	......	Light breeze NE.	......
3	78 58	......	Noon.	Calms	......	Light breeze N	......
4	......	......	......	Light airs NE	......	Light airs and calms	......
5	......	......	......	Light breeze NE.	Light breeze S. and calm.	Fresh wind N.	Calms.
6	78 57	......	Noon.	Calms and light puffs from N.	Light breeze S.	Calms	Light breeze NE.
7		......	......	Light airs N. and NE.	Calms	......	Fresh breeze NE.
8	78 48	......	Noon.	Fresh breeze NE.	......	Light airs and calms	......
9	......	......	......	Light airs NE	......	......	......
10	......	......	......	Light airs NE	......	Light airs NE	Fresh breeze NE
11	......	......	......	Strong breeze NE.	......	Fresh breeze NE.	......
12	78 28	......	Noon.	Fresh breeze NE.	......	Fresh breeze NE.	......
13	......	......	......	Fresh breeze NE.	......	Strong breeze from the NE.	......
14	......	......	......	Fresh breeze N	Early in morning wind shifted to NW.	Fresh breeze W.	Wind light.
15	......	......	......	Light wind SE	Fresh breeze SE.	Gale from SE. or SW.	......

As the meteorological observations made during the latter part of August, 1872, are lost, the notes on the winds, contained in the above table, must necessarily be of a very general nature, so that they will only show whether the wind might have accelerated the drift or not, without furnishing the means of determining the approximate rate of acceleration, which might have been deduced with reasonable accuracy if the anemometric observations were on hand.

From midnight of August 14, when the vessel got beset, till the evening of the 18th, between latitudes 80° 2′ and 79° 44′ the mean direction of the drift was almost SW., or more accurately S. 42° W. Between the 14th and 16th it was either calm or light winds were blowing from NE., SW. and from S., most likely too light to affect the drift, the rate of which during the two days in question was 5 miles, decreasing to 1 mile during the following 48 hours, and rising to 14.4 between the 17th and 18th. This latter velocity is the greatest on record, and as fresh northerly breezes were experienced during the time we may reasonably suppose that they accelerated the rate of the current, the more so as its direction remained the same as during the three preceding days. Most likely this increased velocity is also partly due to the action of the spring-tide, the moon being full at 8^h $53^m.2$ on the 18th, and as a rule the set of the flood was experienced to be stronger than that of the ebb, the former being southerly. During the afternoon of the 18th a prime vertical observation was obtained, so that the position of the vessel could be fixed as accurately as the low altitude of the sun permitted. At 6^h p. m. she found herself in latitude 79° 41′ N., longitude 70° 19′ W., and from this time during the following 48 hours the direction of the drift suddenly changed to about W. 17° N., the velocity decreasing to about 2.3 miles. Between noon of the 20th and noon of the 21st the direction changed again, it being almost due SE., the velocity having increased but slightly, and all the wind recorded during this time being from the north. Another change of both direction and velocity took place between the 21st and 23d, the former becoming E. 9° S., and the latter having increased from 3 to 6.5 miles, while the resulting direction of the wind during this time was almost at right angles to the set of the current.

While up to this time the rate of the current was never less than 1 mile during 24 hours, we see it to decrease to almost one-half of this velocity during the period from August 23 to September 6, the wind being very light during the whole time with the exception of two instances when fresh breezes from SW. are recorded.

The whole difference of latitude made during this fortnight was only 5 miles, the direction of the set being very variable and apparently quite independent of the wind. This rather remarkable change will most likely find its explanation in the action of the tide. We shall see hereafter that the tidal wave is propagated from the north to Polaris Bay, while it reaches Van Rensselaer Harbor, which is the northernmost station in Smith Sound where tidal observations have been made, from the opposite direction. It is evident that the two waves must meet somewhere between these two stations; and until actual observations prove the contrary, we shall look for the line of junction between latitudes 79° 30′ and 79° 37′, where the drift of the vessel was reduced to a minimum.

Between September 6 and 8, the direction of the set was about W. 10° S., the rate increasing again to 2.5 miles and remaining the same until the 14th, although the resulting direction changed to almost SW., the wind being north during the greater portion of the time. From the latter day to October 2 the direction was nearer to that of the meridian than in any of the other instances, the velocity decreasing from 2.5 miles to 1.5, becoming as small as 1 mile between September 24 and October 2.

The vessel continuing to drift toward the coast followed its trend very closely from the 8th till the 13th, the velocity increasing to 8.5 miles, most likely accelerated by the wind, which was from the northeast. The last observation on record is a meridian altitude of the sun, taken on the 12th, and placing the ship in latitude 78° 28′ N., about 6 miles off Cape Hatherton. Increasing her distance from the shore, as a glance at the map will show, she began to drift to the west side of the channel, taking a somewhat northerly direction, partly caused by a fresh breeze from northeast, which finally changed into a southwest gale. Toward evening she was carried north to the vicinity of Life-boat Cove, at the rate of at least 3 miles an hour; but most likely this speed was not only due to the influence of the wind, but also, and perhaps principally, to the flood-current, it being the time of spring-tide.

In the same latitude, a little to the eastward of our position, Inglefield experienced a northerly set of 72 miles,* which we do not hesitate to assign to the same cause, as a permanent current of such a velocity does not exist at this place. In spring, 1873, when traveling from Polaris House to the Eskimo settlement, Sorfalik, where we remained a short time, we paid special attention to the motion of the ice, which, during the time of slack-water, was invariably toward the south. The same direction of the set, only at a greater rate, could be noticed when the tide was ebbing; while, when it rose, the ice drifted in the opposite direction at a speed of about 4 miles an hour.

From the preceding observations it becomes evident that the resulting direction of the current is southerly, even between Port Foulke and Cairn Point, where Petermann supposed the existence of a branch of the Gulf Stream. That there is no warm current north of Cairn Point may be seen from the observations on the temperature of the sea as measured hourly or at greater intervals, and given at the commencement of this chapter, from which is derived the following table, giving both the mean temperature of the sea and that of the air, together with their differences, for the period from August 12 to August 29, when the vessel was between latitudes 81° 5′ and 79° 6′ N.:

Date.	Temperature of air.	Temperature of the sea.	Difference.	Date.	Temperature of air.	Temperature of the sea.	Difference.
	°	°	°		°	°	°
August 12....	31.63	31.15	—0.48	August 21....	37.24	30.35	—6.89
13....	35.82	30.69	—5.13	23....	38.28	30.92	—7.36
14....	34.67	30.45	—4.22	25....	34.21	30.53	—3.68
15....	34.25	30.40	—3.85	26....	31.10	30.10	—1.00
16....	33.38	30.52	—2.86	27....	34.11	30.52	—3.59
19....	35.10	30.10	—5.00	28....	33.17	31.28	—1.89
20....	35.19	30.17	—5.02				

*Compare Petermann's paper, Das Nördlichste Land der Erde, Plan No. 3 of the accompanying map, *loc. cit.*

It is evident that there is not any Gulf Stream between the latitudes above mentioned, but is there any farther south in Smith Sound? If so, it will have to enter Smith Sound from the south, and we shall have to look for it along its eastern coast, as, on account of the rotation of the earth, it will be deflected toward that direction. We must confess that we have no actual observations on currents to offer; but as the Gulf Stream is partly characterized by a high temperature, the following theomometrical record kept during the boat-journey* from Polaris House to Cape York between June 3 and 21 will show whether there exists a warm current in the region traversed or not:

Date.	Time.	Temperature of the sea.	Temperature of the air.	Date.	Time.	Temperature of the sea.	Temperature of the air.	Date.	Time.	Temperature of the sea.	Temperature of the air.
	h.	°	°		*h.*	°	°		*h.*	°	°
June 3	12 p. m..	29.5	29.5	June 11	3 p. m..	30.0	42.8	June 15	6 p. m..	32.0	38.0
4	12 p. m..	29.5	29.5	12	2 p. m..	29.7	35.2	16	2 p. m..	29.4	30.7
5	8 a. m..	29.3	29.0	13	3 p. m..	30.2	35.1	17	3 p. m..	29.6	30.5
5	11 p. m..	29.4	29.2	14	1 p. m..	30.4	47.4	18	6 a. m..	30.1	34.0
6	2 p. m..	29.2	28.0	15	5 a. m..	31.0	33.5	18	8 p. m..	30.0	32.8
7	8 a. m..	29.0	25.2	15	10 a. m..	31.5	39.0	19	12 a. m..	29.8	31.2
8	7 a. m..	29.0	27.0	15	12 a. m..	32.0	41.2	20	8 p. m..	29.3	28.3
9	6 p. m..	29.0	29.0	15	2 p. m..	31.6	39.5	21	11 p. m..	29.0	27.5
10	1 p. m..	29.8	38.0	15	4 p. m..	31.5	38.2				

As the temperature of the sea was either at that of the freezing-point of fresh water, or even below 32° F., as shown by the above table, the existence of the Gulf Stream along the shore between Cape York and Polaris House is quite out of the question. But might not a warm current enter Smith Sound westward of the track of the boats?

To this question we can positively answer, no, for we found the temperature of the sea in no instance above 31°.6 when crossing from Cape York to the coast of North Devon, during the first part of July. Had there been any traces of a warm current, we should have found them beyond doubt, as we usually took observations every hour, or even as often as every half-hour, when the color of the water showed any changes.

According to these observations, the Gulf Stream does not extend north of latitude 75° 5′, but how far it reaches cannot yet be stated, as our own meteorological observations bearing upon this subject are lost, and the material thus far published is scarcely sufficient to settle this question definitely. In McClintock's Meteorological Observations † we find the following remark made on the 7th of July, 1857, the Fox being in latitude 60° 6′ N., longitude 15° 1′ W.: "The temperature of the sea-surface varied from 56° to 61° during the day. At noon the following day the position, by observation, was 10′ to NE. of the dead reckoning. The yacht, therefore, was probably on the northern limits of the Gulf Stream." An examination of the same register shows, however, that afterward higher temperatures were noted till the vessel had passed the parallel of Upernivik when the water again became colder. Some manuscript observations, kindly furnished by Captain von Otter of the Swedish navy, seem to indicate the same conditions; and until we shall have some more complete data, we shall hold the opinion that the Gulf Stream does not enter Melville Bay.

In order to solve the Gulf-Stream question in a satisfactory manner, the observations on the temperature of the sea ought to be accompanied by determinations of the specific gravity of the water, because in many instances the high temperature alone is not sufficient to prove the existence of the Gulf Stream. We have shown that there is no warm current entering Smith Sound, and still we found that on several occasions the temperature of the water at Polaris Bay was astonishingly high. On the 2d of August, at 3^h p. m., we measured 51°.9 along the shore, a little south of our anchorage and opposite a ravine named the Second Ravine, but at the same time the water was almost fresh.

* The track may be found on the accompanying map, and the positions as taken during the time are given in the chapter containing the astronomical observations.

† Fourth number of Meteorological Papers published by authority of the Board of Trade, 1860. London: Eyre and Spottiswoode, 1860, p. 4.

We made similar observations along the Greenland coast between Disco Island and Upernivik, and in every instance we noticed that these warm spots were almost destitute of animal life, which was abundant where the percentage of salt was normal. It is easy to perceive how and where this high temperature is communicated to the water.

The rest of the observations on record that might tend to complete our knowledge of the system of currents do not contain anything new; they merely help to prove what others proved before, namely, a southerly set in Baffin Bay and Davis Strait.

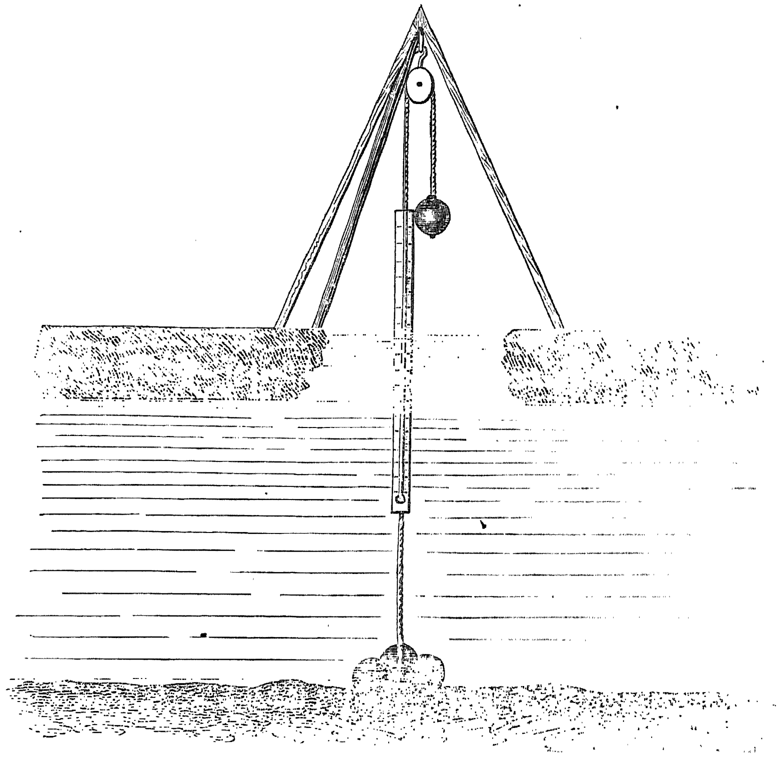
The following table contains the approximate rate of the current, deduced from the observations taken by Mr. Meyer during the drift of the floe party. As there were but four observations for longitude taken then, we used, in some instances, a graphic process to approximate the velocity more closely. In doing so, we were guided by the general trend of the coast and the prevailing direction of the wind, to which the drift seems to be mostly due:

Date.		Latitude north.	Longitude west.	Drift in 24 hours.	Date.		Latitude north.	Longitude west.	Drift in 24 hours.
		° ′	° ′	*Miles.*			° ′	° ′	*Miles.*
Oct.	15	78 10	75 00	....	Mar.	31	59 41	....	23.0
Dec.	7	74 04	67 53	4.9	April	4	56 47	....	43.5
Jan.	5	72 07	60 41	5.2		9	55 51	....	11.2
	20	70 02	60 01	8.5		12	55 35	....	5.3
	27	69 32	60 03	4.3		13	55 23	....	12.0
Feb.	5	68 50	....	4.7		14	55 13	....	10.0
Mar.	12	64 32	....	7.4		15	54 58	....	15.0
	14	64 19	....	6.5		16	54 27	....	31.0
	17	63 47	....	10.7		21	53 57	....	6.0
	22	62 56	....	10.2		26	53 30	....	5.4
	25	61 59	....	19.0		29	53 04	....	8.6

TIDAL OBSERVATIONS AT POLARIS BAY.

The regular tidal observations made at Polaris Bay, and recorded hereafter, were commenced November 6, 1871, and continued, with the exception of a few omissions, occasioned by physical obstacles beyond our control, until June 6, 1872, thus comprising a period of about seven lunations. It was our intention, at first, to continue the observations till we left our winter-quarters, but as over half of the ship's crew was absent on a boat-journey during June and July, and as the ice supporting the tide-gauge began to decay about the middle of June, the observations had to be discontinued.

The gauge used, and represented in the following diagram, was of the most simple construction, and performed admirably, as an examination of the record will show. It was mounted over a square hole cut through the ice near the vessel, about a quarter of a mile from shore, where the tide-wave had free access. It consisted of a pulley and rope supported by a tripod. The rope, to which a wooden scale was fastened, divided into feet and inches, was carried through a block attached to the tripod. One end of the rope was anchored to the bottom by three thirty-two pound shot, and a counterpoise was attached to the other end to keep the rope properly stretched.



The apparatus was frequently tested by taking series of scale-readings, with corresponding soundings, a number of which may be found in the following table:

Soundings, with corresponding gauge readings.

Date.	Time.	Gauge-reading.	Sounding.	Date.	Time.	Gauge-reading.	Sounding.	Date.	Time.	Gauge-reading.	Sounding.
	h.	*Feet.*	*Feet.*		*h.*	*Feet.*	*Feet.*		*h.*	*Feet.*	*Feet.*
Dec. 19	8 p. m..	6.75	71.75	Dec. 28	8 p. m..	3.62	68.75	Jan. 4	8 p. m..	6.67	72.37
21	8 p. m..	6.62	71.50	29	8 p. m..	3.75	68.83	5	8 p. m..	6.50	72.46
22	8 p. m..	6.00	71.08	31	8 p. m..	4.00	69.17	6	8 p. m..	6.58	72.51
25	8 p. m..	5.60	70.00	Jan. 1	8 p. m..	4.08	69.92	7	8 p. m..	6.29	72.17
26	8 p. m..	4.37	69.50	2	8 p. m..	5.33	70.67	8	8 p. m..	5.96	71.33
27	8 p. m..	3.71	69.00	3	8 p. m..	5.79	71.08				

It will be seen that the greater portion of the observations was taken hourly; in some instances, however, the readings were taken half-hourly, or near the turn of the tide, at intervals of ten minutes. As there was scarcely ever any perceptible swell amid the ice, the scale could be read off to a fraction of an inch.

The gauge being too far distant from the observatory to permit of the scientific members of the expedition taking the observations without much inconvenience, the readings were taken by two of the seamen, H. Siemens and H. Hobby, who were relieved from the regular duty and devoted themselves with great zeal and care to their task. The observations were controlled and transcribed by the writer every evening, when the time-piece, made use of in taking the readings, was also compared, and set if found necessary. It is supposed that none of the following observations were taken more than two minutes earlier or later than recorded.

Date.	NOVEMBER, 1871.																	
Time.	6		7		8		9		10		11		12		13		14	
	Feet.	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*
0h	3	00.0	3	03.0	3	07.5	4	06.0	4	05.0	5	01.0	5	08.5	6	03.5	6	02.0
1	3	01.0	2	11.5	3	00.0	3	05.0	3	04.0	4	05.5	4	10.0	5	11.0	6	03.0
2	3	02.5	2	08.0	2	07.5	2	08.0	2	04.0	2	08.5	3	07.0	4	10.0	5	07.0
3	3	05.5	2	07.5	2	02.0	2	03.5	1	06.0	1	07.0	2	01.0	3	04.5	4	02.5
4	4	06.0	2	09.0	2	01.0	1	10.5	1	00.0	0	10.5	0	09.0	1	10.0	2	08.0
5	4	09.0	3	00.0	2	04.0	2	00.0	1	00.0	0	07.0	0	00.0	0	07.5	1	01.5
6	4	09.5	3	04.0	2	11.0	2	07.5	1	05.0	0	11.5	0	05.0	0	03.0	0	03.0
7	4	08.0	3	08.0	3	05.0	3	06.0	2	03.5	1	09.0	0	09.0	0	05.0	0	04.0
8	4	07.5	3	08.0	3	11.0	4	03.0	3	05.5	2	08.5	2	00.0	1	04.0	0	08.5
9	4	05.5	3	07.0	4	02.5	4	10.5	4	05.0	4	00.5	3	05.5	2	10.0	1	11.0
10	3	00.0	3	06.0	4	04.0	5	02.0	5	00.5	5	01.0	4	11.5	4	06.0	3	10.0
11	2	10.0	3	03.0	4	00.0	5	00.0	5	03.0	5	08.0	6	00.0	6	00.0	5	03.0
Noon.	2	09.0	2	11.0	3	09.0	4	04.0	4	09.0	4	08.0	6	04.25	6	10.0	6	03.0
1h	2	09.0	2	07.0	3	05.0	3	07.0	3	11.0	4	10.5	5	10.0	6	11.0	6	08.5
2	2	09.0	2	07.0	2	11.0	2	08.5	2	09.0	3	07.5	4	08.0	6	01.5	6	05.5
3	3	00.0	2	05.0	2	06.5	2	02.5	2	00.0	2	07.0	3	04.0	4	11.0	5	03.0
4	3	05.5	2	08.0	2	06.0	1	10.5	1	06.0	2	04.5	2	01.0	3	02.5	3	11.0
5	3	10.5	3	01.0	2	09.0	-----	-------	1	04.0	2	04.5	1	03.5	2	01.5	2	00.0
6	4	03.0	3	09.0	3	03.5	3	05.5	1	07.0	2	04.5	1	01.5	1	05.0	1	06.0
7	4	07.0	4	03.0	4	05.0	3	03.5	2	06.0	2	04.5	1	06.5	1	04.0	1	02.0
8	4	08.5	4	08.0	4	06.5	5	02.5	3	09.0	3	00.0	2	05.0	2	00.0	1	05.0
9	4	08.5	4	09.0	4	11.5	-----	-------	4	08.5	4	02.0	3	11.0	3	04.0	2	03.5
10	4	03.0	4	07.5	4	03.5	5	05.0	5	04.0	5	02.0	4	11.5	4	06.0	3	05.0
11	3	08.0	4	02.0	5	06.0	5	02.0	5	05.75	5	09.0	6	00.0	5	07.5	4	07.0

Date.	NOVEMBER, 1871.														DECEMBER, 1871.			
Time.	15		16		17		18		19		20		21		3		4	
	Feet.	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*
0h	5	05.5	4	08.0	4	02.0	3	05.0	3	00.0	3	03.0	2	11.0	3	11.5	4	02.0
1	5	10.0	5	06.0	5	01.0	4	01.0	3	04.0	3	02.0	2	07.0	4	07.0	4	08.5
2	5	07.5	5	08.0	5	07.5	4	07.0	3	09.0	3	04.0	2	04.5	5	00.0	5	01.5
3	4	09.0	5	04.0	5	07.5	4	11.0	4	03.5	3	07.5	2	06.0	5	03.5	5	05.0
4	3	04.0	4	04.0	5	00.0	4	11.0	4	07.0	4	00.0	-----	-------	5	03.5	5	08.0
5	1	10.0	3	00.0	4	01.0	4	07.0	4	06.0	4	03.0	-----	-------	4	11.0	5	07.5
6	1	08.0	1	09.0	3	00.0	3	11.0	4	03.0	4	07.5	-----	-------	4	01.5	5	02.0
7	0	04.0	0	11.0	2	00.0	3	00.5	3	11.5	4	05.0	-----	-------	3	07.0	4	07.5
8	0	04.0	0	09.0	1	06.0	2	05.5	3	05.0	4	02.0	-----	-------	3	02.0	4	02.5
9	1	01.0	0	11.0	1	04.0	2	00.5	3	00.0	3	09.5	-----	-------	2	11.0	4	00.0
10	2	07.0	1	11.0	1	08.0	2	00.0	2	07.5	3	03.0	-----	-------	3	00.0	3	09.5
11	4	00.0	3	05.0	2	07.0	2	04.0	2	06.5	2	11.0	-----	-------	3	04.5	3	11.5
Noon.	5	06.0	4	11.5	3	08.0	3	00.0	2	09.0	2	06.0	-----	-------	4	01.5	4	05.5
1h	6	05.5	6	00.5	4	09.0	3	03.0	3	02.0	2	06.0	-----	-------	4	11.0	5	01.5
2	6	07.0	6	07.5	5	08.0	4	08.0	3	09.0	2	07.0	-----	-------	5	07.5	5	08.5
3	6	00.0	6	09.0	6	02.0	5	05.0	4	05.0	3	00.0	-----	-------	6	00.0	6	03.5
4	4	10.0	6	02.0	6	01.5	5	11.0	5	01.0	3	08.0	-----	-------	6	02.5	6	09.5
5	3	06.0	5	01.0	5	07.5	5	11.0	5	05.5	4	03.0	-----	-------	6	02.5	6	11.0
6	2	04.0	3	11.5	4	09.5	5	05.5	5	08.0	4	10.0	-----	-------	5	11.0	6	10.5
7	1	07.0	3	00.0	3	11.0	4	11.0	5	08.0	5	02.0	-----	-------	5	04.0	6	07.5
8	1	05.0	2	05.0	3	01.5	4	01.0	5	03.0	5	01.0	-----	-------	4	09.0	6	02.5
9	1	11.0	2	04.0	2	08.5	3	05.0	4	08.0	4	09.0	-----	-------	4	03.5	5	06.5
10	2	09.0	2	08.0	2	07.0	3	00.0	4	01.0	4	02.0	-----	-------	3	11.5	4	11.0
11	3	10.0	3	05.0	2	11.0	2	10.5	3	07.0	3	06.0	-----	-------	3	11.5	4	08.0

Date.	DECEMBER, 1871.																	
Time.	5		6		7		8		9		10		11		12		13	
	Feet.	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*
0^h	4	08.0	4	03.5	3	09.5	4	05.0	5	04.0	6	03.5	7	04.0	8	01.0	8	01.5
1	4	09.0	4	00.5	3	04.5	3	07.0	4	07.0	5	02.0	6	04.0	7	05.0	8	01.5
2	5	02.0	4	01.0	3	01.5	3	00.0	3	08.0	4	00.0	5	00.0	6	02.0	7	04.0
3	5	06.5	4	04.5	3	03.5	2	10.5	2	11.5	3	03.5	3	08.5	4	06.0	6	01.0
4	5	10.5	4	11.5	3	08.5	3	00.0	2	04.5	2	08.0	2	09.5	3	10.0	4	06.0
5	6	00.0	5	03.0	4	03.0	3	06.5	3	05.0	2	09.0	2	04.0	2	04.0	3	02.0
6	5	11.0	5	05.0	4	10.0	4	02.0	4	07.0	3	05.5	2	05.0	2	03.5	2	06.5
7	5	08.0	5	06.0	5	03.5	5	00.0	5	01.0	4	04.5	3	03.5	2	02.5	2	06.0
8	5	03.0	5	04.0	5	06.0	5	10.0	6	03.0	5	05.0	4	10.0	3	09.0	3	02.0
9	4	10.0	5	00.0	5	05.0	6	03.0	7	00.0	6	09.5	6	02.0	5	03.0	4	07.0
10	4	06.5	4	07.0	5	03.0	6	03.0	7	05.0	7	08.4	7	09.0	6	11.0	6	01.0
11	4	05.5	4	04.0	4	09.5	5	10.0	7	02.5	8	00.0	8	06.0	8	02.5	7	07.5
Noon.	4	04.0	4	00.0	4	04.0	5	01.0	6	07.5	7	07.5	8	06.5	8	10.25	8	09.5
1^h	4	08.5	3	10.0	3	11.0	4	05.0	5	08.5	6	07.5	7	10.5	8	07.0	9	02.0
2	5	01.0	4	01.0	3	08.0	3	11.5	4	07.5	5	07.0	6	10.0	7	09.5	8	10.0
3	5	08.5	4	03.0	3	08.5	3	08.0	4	00.0	4	08.0	5	06.0	6	09.0	7	10.0
4	6	02.0	4	10.0	4	01.0	3	08.5	3	09.0	4	00.0	4	05.0	5	04.0	6	04.0
5	6	07.75	5	04.0	4	08.0	4	02.0	3	11.5	3	09.0	3	09.0	4	01.5	5	07.0
6	6	09.25	5	08.0	5	04.0	4	10.0	4	07.0	4	00.0	3	07.5	3	07.5	4	03.0
7	6	08.75	6	00.0	5	11.0	5	10.0	5	06.0	4	10.0	4	03.0	3	07.5	3	08.0
8	6	02.5	6	00.0	6	02.0	6	04.0	6	06.0	6	00.0	5	05.0	4	04.4	3	11.0
9	5	07.0	5	10.0	6	03.0	6	11.5	7	03.0	6	11.0	6	07.5	5	07.0	4	09.0
10	4	11.0	5	03.5	5	11.0	6	10.5	7	06.0	6	06.0	7	06.0	6	08.0	5	10.0
11	4	05.0	5	06.5	5	02.5	6	04.0	7	02.0	7	08.0	8	01.0	8	01.1	7	00.0

Date.	DECEMBER, 1871.																	
Time.	14		15		16		17		18		19		20		21		22	
	Feet.	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*
0^h	7	09.5	7	00.0	5	05.0	3	07.0	3	01.0	3	06.0	4	01.0	4	06.5	5	00.0
1	8	06.0	7	06.0	6	04.0	4	06.0	3	08.0	3	07.5	3	10.5	4	00.0	4	03.5
2	8	00.0	7	09.5	6	10.5	5	04.5	4	05.5	4	04.0	3	11.0	3	09.0	3	08.0
3	7	00.0	7	07.0	6	11.5	5	09.5	5	01.0	4	09.5	4	03.5	3	09.5	3	05.0
4	5	07.5	6	08.0	6	06.0	5	10.5	5	05.0	5	02.0	4	10.0	4	00.0	3	05.5
5	4	01.0	5	04.5	5	06.5	5	05.0	5	05.5	5	07.5	5	05.0	4	04.5	3	11.5
6	2	10.0	3	11.0	4	06.0	4	06.5	5	05.0	5	09.0	5	08.5	5	01.5	4	05.0
7	2	04.0	2	11.5	3	04.0	3	06.0	4	07.5	5	09.0	5	11.5	5	06.5	5	03.5
8	2	05.5	2	08.0	2	06.5	2	07.0	4	00.0	5	05.5	6	00.0	6	02.0	5	11.5
9	3	04.5	3	00.0	2	04.0	2	02.0	3	04.5	4	10.5	5	08.5	6	03.0	6	06.0
10	4	07.0	3	10.0	2	06.5	2	02.0	3	01.0	4	04.0	5	04.0	6	00.5	6	07.5
11	6	03.0	5	04.5	3	06.5	2	06.0	3	00.0	4	01.0	4	11.0	5	08.5	6	06.0
Noon.	7	07.5	6	03.5	4	07.0	.....	....	3	02.0	4	00.5	4	06.5	5	02.0	5	11.0
1^h	8	06.0	7	07.5	5	10.0	.....	....	3	09.0	4	03.0	4	06.0	4	08.0	5	07.0
2	8	08.5	8	10.0	6	08.0	.....	....	4	06.0	4	08.0	4	04.0	4	04.0	4	07.0
3	8	03.5	8	05.5	7	01.5	.....	....	5	07.5	5	02.0	4	07.5	4	03.5	4	02.5
4	7	04.5	7	10.0	7	03.0	6	06.0	6	02.5	6	00.0	5	02.5	4	05.5	4	01.0
5	5	11.5	6	09.0	6	07.5	6	04.0	6	06.0	6	07.0	5	10.0	5	01.0	4	04.0
6	4	09.5	5	06.0	5	07.0	5	11.0	6	07.0	7	00.0	6	04.5	5	06.0	5	00.0
7	4	02.0	4	05.0	4	06.0	5	01.0	6	04.0	7	00.0	6	08.0	6	01.0	5	07.0
8	3	05.0	3	10.0	3	06.0	4	02.5	5	09.0	6	09.0	6	08.5	6	05.5	6	00.0
9	3	07.0	3	07.0	2	11.0	3	05.0	4	10.5	6	00.0	6	04.0	6	07.5	6	05.5
10	4	06.0	3	08.0	2	08.5	3	00.0	4	02.0	5	04.0	5	10.0	6	04.5	6	07.0
11	5	08.0	4	05.0	2	10.0	2	11.0	3	08.0	4	08.0	5	02.5	5	09.5	6	02.5

Date.	DECEMBER, 1871.																	
Time.	23		24		25		26		27		28		29		30		31	
	Feet.	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*
0^h	5	06.5	6	04.5	6	09.0	7	02.5	7	02.0	6	10.0	6	04.0	5	11.5	5	04.5
1	4	08.0	5	08.0	6	01.0	6	09.0	7	00.0	6	08.5	6	07.5	6	07.5	6	01.5
2	4	00.0	4	10.5	5	04.0	5	10.0	6	05.0	6	06.0	6	09.0	6	09.5	6	06.5
3	3	05.0	4	02.0	4	06.0	4	08.5	5	07.0	5	08.5	6	03.0	6	04.5	6	07.5
4	3	04.5	3	06.5	3	06.5	3	09.0	4	03.5	4	08.5	5	02.5	5	08.5	6	02.5
5	3	06.0	3	05.0	3	01.0	3	02.0	3	05.0	3	06.0	4	00.0	4	09.5	5	04.5
6	4	00.0	3	06.5	3	01.5	3	00.0	3	00.0	2	10.0	3	01.0	3	08.0	4	03.5
7	4	05.0	4	03.5	3	06.5	3	01.5	2	11.5	2	07.5	2	06.5	3	00.0	3	04.0
8	5	04.0	5	00.0	4	05.5	3	06.5	3	06.0	2	11.5	2	07.5	2	09.5	2	10.5
9	6	01.0	6	00.0	5	05.5	4	07.5	4	03.5	3	10.0	3	02.5	2	11.5	2	11.0
10	6	07.0	7	00.0	6	07.5	6	00.5	5	07.0	4	08.0	4	00.5	3	10.0	3	02.5
11	6	08.5	7	05.0	7	04.5	7	01.5	6	04.5	6	03.0	5	03.5	4	08.5	4	01.5
Noon.	6	05.0	7	04.5	7	08.5	7	06.5	7	04.5	7	02.5	6	05.5	6	00.0	5	02.5
1^h	5	09.5	6	10.0	7	06.5	7	08.1	7	07.5	7	09.0	7	05.5	7	02.0	6	02.5
2	5	01.0	6	00.0	6	09.0	7	01.0	7	04.5	7	09.0	7	09.5	7	06.5	7	00.0
3	4	04.5	5	01.5	5	10.0	6	02.0	6	07.0	7	02.5	7	05.5	7	07.0	7	05.5
4	4	01.5	4	03.5	4	10.0	5	02.0	5	06.5	6	04.0	6	07.5	7	01.0	7	04.5
5	4	03.0	3	11.0	4	01.0	4	03.5	4	06.0	5	08.0	5	07.0	6	02.0	6	08.0
6	4	03.5	3	11.5	3	09.0	3	10.0	3	09.0	4	04.5	5	02.0	5	02.5	5	08.5
7	5	00.0	4	07.0	4	01.0	3	09.0	3	07.0	3	10.0	3	11.0	4	03.0	4	09.5
8	5	11.0	5	06.0	5	00.0	4	04.5	3	08.5	3	07.5	3	09.0	3	08.0	4	00.0
9	6	07.5	6	01.0	5	11.5	5	03.0	4	05.5	4	03.0	3	10.0	3	07.0	3	07.0
10	7	00.0	6	08.5	6	08.0	6	02.0	5	05.0	4	11.0	4	05.5	4	00.0	3	07.0
11	6	11.5	6	10.5	7	01.0	6	10.0	6	02.5	5	08.5	5	03.0	4	07.0	4	01.0

Date.	JANUARY, 1872.															
Time.	1		2		3		4		5		6		7		8	
h.	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*
0.00	4	11.5	4	06.0	4	00.5	3	07.75	3	10.6	4	00.0	4	05.0	5	06.25
0.30	5	04.5	4	10.0	4	02.0	3	08.0	3	09.0	3	09.0	3	11.5	5	00.0
1.00	5	08.5	5	02.0	4	06.5	3	10.5	3	08.0	3	06.5	3	07.5	4	06.0
1.30	6	01.0	5	06.5	4	10.5	4	02.0	3	08.5	3	05.0	3	04.0	4	01.25
2.00	6	03.5	5	10.5	5	02.0	4	05.5	3	10.5	3	04.6	3	02.0	3	07.0
2.30	6	05.5	6	01.5	5	05.5	4	09.6	4	01.0	3	05.0	3	00.3	3	02.0
3.00	6	06.0	6	04.0	5	09.5	5	01.0	4	04.5	3	06.75	2	11.6	2	10.5
3.30	6	05.6	6	04.5	5	11.5	5	04.6	4	08.6	3	08.6	3	00.3	2	09.0
4.00	6	01.5	6	05.0	6	02.0	5	07.5	5	00.3	4	00.0	3	01.0	2	08.75
4.30	6	01.5	6	04.75	6	02.6	5	09.75	5	04.5	4	04.0	3	03.0	2	09.66
5.00	5	08.5	6	02.5	6	02.6	5	11.75	5	07.3	4	08.3	3	06.0	3	00.5
5.30	5	04.5	5	11.75	6	01.6	6	00.6	5	09.5	5	00.5	3	11.0	3	04.0
6.00	5	10.6	5	07.0	5	11.25	6	01.6	6	00.0	5	04.75	4	04.6	3	09.0
6.30	4	04.5	5	03.0	5	08.0	6	01.5	6	01.0	5	08.0	4	10.0	4	01.5
7.00	3	11.5	4	10.0	5	03.5	6	00.0	6	01.5	5	11.0	5	03.6	4	09.5
7.30	3	07.0	4	05.0	4	03.0	5	09.0	6	01.3	6	01.5	5	08.6	5	03.66
8.00	3	03.5	4	01.5	4	04.5	5	06.0	6	00.0	6	03.0	6	00.6	6	11.00
8.30	3	02.5	3	10.5	4	03.75	5	03.0	5	10.0	6	03.75	6	01.0	6	04.66
9.00	3	01.6	3	08.5	4	01.5	4	11.5	5	08.3	6	03.75	6	03.3	6	10.33
9.30	3	02.25	3	07.6	4	00.25	4	09.0	5	05.2	6	03.0	6	07.5	7	04.75
10.00	3	04.25	3	07.0	3	11.0	4	06.5	5	01.0	6	01.5	6	07.0	7	07.0
10.30	3	07.25	3	08.0	3	10.5	4	05.0	5	01.7	5	11.75	6	06.6	7	07.75
11.00	3	11.5	3	10.75	3	10.5	4	04.5	4	10.5	5	09.0	6	03.7	7	07.25
11.30	4	03.25	4	03.5	3	11.5	4	03.75	4	08.0	5	06.0	6	02.0	7	05.0

Date.	JANUARY, 1872.															
Time.	1		2		3		4		5		6		7		8	
h.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.
Noon.	4	10.0	4	06.0	4	01.75	4	04.0	4	05.25	5	02.0	5	08.7	7	02.25
0.30	5	04.0	4	10.5	4	04.25	4	04.5	4	03.75	4	10.5	5	04.7	6	08.75
1.00	5	08.0	5	01.75	4	08.25	4	06.0	4	02.5	4	07.75	5	05.0	6	03.75
1.30	6	01.5	5	07.0	5	00.0	4	07.5	4	03.0	4	05.5	4	[illegible]	5	09.75
2.00	6	06.5	5	10.0	5	05.0	4	10.5	4	03.5	4	04.0	4	06.0	5	03.0
2.30	6	11.25	6	03.6	5	09.0	5	01.5	4	05.5	4	03.5	4	03.0	4	09.75
3.00	7	01.25	6	08.0	6	01.75	5	05.25	4	08.0	4	03.5	4	05.0	4	05.0
3.30	7	03.6	6	11.0	6	04.5	5	09.5	4	10.25	4	05.0	3	11.5	4	01.0
4.00	7	04.0	7	01.0	6	06.75	6	00.75	5	01.5	4	08.0	3	11.5	3	11.0
4.30	7	03.0	7	01.5	6	08.25	6	04.0	5	05.0	4	10.0	4	00.0	3	10.5
5.00	7	00.0	7	01.0	6	09.25	6	06.25	5	08.25	5	01.75	4	02.5	3	11.0
5.30	6	09.5	6	11.0	6	09.0	6	07.0	5	11.5	5	05.0	4	06.5	4	00.25
6.00	6	04.5	6	07.0	6	08.25	6	08.0	6	02.5	5	08.0	4	10.0	4	02.5
6.30	6	00.0	6	04.0	6	06.25	6	09.0	6	05.5	5	11.75	5	02.25	4	08.0
7.00	5	05.0	5	07.0	6	03.75	6	09.0	6	06.0	6	03.0	5	06.5	5	01.0
7.30	5	00.5	5	07.5	6	00.5	6	07.5	6	06.0	6	04.75	5	11.5	5	06.5
8.00	4	01.0	5	04.0	5	09.5	6	08.0	6	06.0	6	07.0	6	03.5	5	11.5
8.30	4	03.5	4	11.0	5	05.0	6	01.5	6	05.5	6	07.25	6	05.75	6	04.0
9.00	4	00.5	4	07.0	5	00.5	5	10.0	6	03.0	6	08.0	6	07.5	6	09.0
9.30	3	10.5	4	04.0	4	08.0	5	06.0	5	11.0	6	05.25	6	08.75	6	11.5
10.00	3	09.75	4	01.0	4	03.5	5	01.5	5	06.75	6	02.5	6	08.5	7	01.25
10.30	3	09.0	4	00.0	4	00.4	4	09.0	5	01.5	5	10.0	6	06.5	7	01.5
11.00	3	11.0	3	10.5	3	09.5	4	05.0	4	08.5	5	04.0	6	03.75	7	01.0
11.30	4	02.0	3	11.0	3	07.6	4	01.5	4	04.5	4	11.0	5	11.0	6	10.0

Date.	JANUARY, 1872.																	
Time.	9		10		11		12		13		14		15		16		17	
	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.
0^h	6	06.0	7	06.75	7	08.5	7	03.0	6	00.25	5	05.5	4	04.0	3	06.0	2	11.0
1	5	07.0	6	08.0	7	07.0	7	08.0	6	09.25	6	06.0	5	07.5	4	07.0	3	07.1
2	4	05.0	5	06.5	6	09.0	7	04.75	7	02.0	7	03.0	6	06.0	5	05.5	4	03.75
3	3	04.0	4	03.33	5	04.0	6	05.5	6	11.0	7	05.0	6	11.25	6	01.5	5	00.0
4	2	07.66	3	02.0	3	11.0	4	11.0	5	09.75	6	10.0	7	00.0	6	05.0	5	06.25
5	2	05.5	2	07.0	2	09.5	3	05.0	4	04.5	5	08.5	6	04.0	6	04.0	5	10.0
6	2	10.5	2	05.66	2	01.5	2	04.0	3	00.0	4	03.0	5	02.0	5	07.6	5	08.0
7	3	09.0	2	10.5	2	02.0	1	11.0	2	01.0	3	02.0	4	00.9	4	07.6	5	02.5
8	5	00.0	3	11.5	2	10.0	2	01.0	1	10.0	2	04.5	3	01.5	3	08.25	4	06.25
9	6	05.0	5	04.66	4	01.0	3	00.0	2	00.0	2	02.5	2	08.5	3	00.6	3	09.75
10	7	05.5	6	11.0	5	09.0	4	05.25	3	01.0	2	09.0	2	07.75	2	10.0	3	04.33
11	8	00.25	8	00.0	7	04.0	5	11.0	4	06.5	3	11.0	3	04.5	2	11.6	3	04.25
Noon.	9	01.0	8	06.66	8	06.0	7	06.0	6	02.5	5	02.0	4	07.7	3	07.5	3	03.5
1^h	7	05.5	8	04.5	8	09.33	8	04.5	7	06.0	6	08.0	5	08.5	4	06.5	3	08.5
2	6	05.0	7	08.0	8	06.0	8	06.0	8	03.5	7	09.25	6	06.5	5	06.5	4	06.0
3	5	02.5	6	06.5	7	04.0	7	11.75	8	04.5	8	02.0	7	08.75	6	04.5	5	03.0
4	4	02.5	5	07.0	5	11.0	6	10.5	7	06.0	7	11.5	7	08.0	6	10.0	5	11.5
5	3	09.0	3	11.5	4	06.25	5	03.5	6	03.25	6	11.25	7	04.5	6	10.0	6	02.5
6	3	08.0	3	05.5	3	06.0	4	00.0	4	10.5	5	09.0	6	05.0	6	05.0	6	02.5
7	4	04.0	3	06.0	3	00.0	3	00.0	3	08.5	4	08.5	5	04.5	5	07.25	5	09.5
8	5	03.0	4	03.0	3	02.0	2	10.25	2	11.0	3	07.0	4	02.5	4	07.5	5	01.5
9	6	02.5	5	04.5	4	05.0	3	01.5	2	09.0	3	00.0	3	04.5	3	08.5	4	02.5
10	7	01.5	6	04.0	5	02.0	4	01.0	3	00.5	3	00.0	2	11.0	3	01.0	3	05.5
11	7	06.75	7	04.0	6	05.25	5	00.5	4	03.0	3	06.0	2	11.5	2	11.0	3	00.0

Date.	JANUARY, 1872.																	
Time.	18		19		20		21		22		23		24		25		26	
	Feet.	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*
0^h	2	10.5	2	11.75	3	10.0	4	06.0	5	06.5	6	04.5	6	08.0	7	06.0	7	05.0
1	3	00.0	2	10.5	3	05.0	3	11.0	4	09.5	5	09.0	6	06.0	7	05.0	7	05.5
2	3	05.5	3	00.0	3	02.5	3	06.25	4	01.25	4	10.5	5	07.75	6	08.5	6	10.75
3	4	00.66	3	03.75	3	03.0	3	04.5	3	08.25	4	02.0	4	07.25	5	07.5	6	00.0
4	4	08.0	3	09.66	3	07.0	3	04.5	3	06.66	3	07.25	3	09.0	4	07.5	4	08.0
5	5	01.0	4	02.5	4	00.5	3	07.0	3	06.75	3	04.5	3	04.5	3	11.75	3	08.25
6	5	03.0	4	07.5	4	06.5	4	02.0	3	11.0	3	05.5	3	03.5	3	07.5	3	01.75
7	5	02.66	4	10.66	5	01.0	4	10.66	4	06.25	3	11.0	3	07.0	3	08.25	3	00.25
8	4	10.66	4	11.5	5	05.0	5	06.0	5	04.5	4	09.0	4	05.0	4	04.25	3	04.5
9	4	03.5	4	11.0	5	09.0	6	00.66	6	03.5	5	10.0	5	06.5	5	04.66	4	02.0
10	3	10.0	4	06.75	5	07.75	6	04.0	7	00.0	6	07.0	6	08.25	6	08.0	5	04.66
11	3	06.25	4	02.5	5	05.25	6	03.5	7	03.25	.....	....	7	07.0	7	08.25	6	08.33
Noon	3	05.0	3	10.5	5	01.0	6	00.0	7	02.25	.....	....	8	01.25	8	03.75	7	09.0
1^h	3	05.66	3	09.0	4	07.75	5	06.0	6	07.75	7	00.0	8	01.0	8	05.0	8	01.0
2	3	08.5	3	09.0	4	03.75	4	10.5	5	10.25	6	04.0	7	05.75	8	01.0	8	00.0
3	4	03.5	3	10.0	4	01.5	4	04.25	5	01.5	5	03.5	7	05.0	7	03.0	7	03.66
4	4	10.5	4	03.0	4	02.0	4	01.5	4	07.5	4	06.5	5	01.33	6	01.0	6	04.0
5	5	03.5	4	09.0	4	05.75	4	02.5	4	06.0	4	00.0	4	07.0	4	11.0	5	02.0
6	5	05.75	5	01.5	4	10.75	4	08.0	4	08.0	3	11.5	4	03.0	4	01.5	4	02.0
7	5	02.25	5	04.5	5	04.5	5	01.25	5	01.5	4	03.5	4	04.0	4	00.0	3	07.0
8	5	04.00	5	05.5	5	08.0	5	07.5	5	10.0	5	00.0	4	11.0	4	06.0	3	06.5
9	4	08.0	5	04.25	5	08.5	6	00.0	6	01.5	5	09.0	5	10:0	5	03.75	3	10.0
10	3	11.5	4	11.0	5	08.0	6	01.5	6	07.0	6	02.5	6	08.0	6	02.25	5	01.25
11	3	04.5	4	03.0	5	01.0	6	00.0	6	07.25	6	07.5	7	03.75	6	11.5	5	09.75

Date.	JANUARY, 1872.										FEBRUARY, 1872.							
Time.	27		28		29		30		31		1		2		3		4	
	Feet.	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches*
0^h	6	07.0	6	01.33	5	08.0	5	06.0	4	09.5	3	06.75	....	......	3	03.0	3	09.5
1	6	11.5	6	06.5	6	05.75	6	05.5	5	09.0	4	06.0	....	......	3	05.0	3	07.75
2	6	11.0	6	08.25	6	10.5	7	00.0	6	05.25	5	05.0	....	......	4	01.0	3	09.5
3	6	02.0	6	02.25	6	10.75	7	03.0	6	11.0	6	01.5	....	......	4	11.5	4	02.66
4	5	00.0	5	02.0	6	01.66	6	10.5	6	11.5	6	05.0	....	......	5	08.5	4	10.0
5	3	08.5	3	09.5	5	01.0	6	00.0	6	06.5	6	04.0	....	......	6	01.5	5	05.5
6	2	08.5	2	08.0	3	10.0	4	10.0	5	08.0	5	10.0	....	......	6	04.0	6	00.0
7	2	03.33	2	01.5	2	11.0	3	10.25	4	08.0	4	10.5	....	......	6	03.0	6	04.0
8	2	04.0	2	01.0	2	07.0	3	03.75	3	09.5	4	01.5	....	......	5	19.0	6	05.0
9	3	01.75	2	06.0	2	10.25	3	02.5	3	04.0	3	06.0	....	......	5	03.0	6	04.0
10	4	05.0	3	04.5	3	06.25	3	06.0	3	04.0	3	03.75	....	......	4	10.0	6	00.5
11	5	08.0	4	08.25	4	08.25	4	03.25	3	09.0	3	06.0	3	09.5	4	07.75	5	08.25
Noon.	6	10.0	6	00.0	5	11.0	5	05.C	4	05.0	4	00.0	3	10.5	4	06.66	5	03.5
1^h	7	06.25	7	00.0	6	10.0	6	07.0	5	05.5	4	08.5	4	03.5	4	07.5	4	10.5
2	7	07.5	7	05.0	7	01.5	7	07.0	6	03.5	5	07.0	4	09.75	4	11.66	4	08.0
3	7	02.66	7	02.5	8	00.0	7	10.0	6	11.5	6	03.0	5	04.5	5	05.5	4	09.5
4	6	02.0	6	06.25	7	06.0	7	08.25	7	02.0	6	08.0	6	00.5	5	11.0	5	02.66
5	4	10.0	5	05.0	6	06.25	7	00.0	6	10.75	6	08.0	6	05.5	6	03.0	5	06.5
6	3	06.66	4	02.75	5	03.33	6	00.0	6	03.0	6	05.5	6	06.5	6	06.0	6	00.0
7	2	10.5	3	02.5	4	02.0	4	11.0	5	03.0	....	....	6	04.0	6	06.25	6	04.5
8	2	10.0	2	08.0	3	05.33	4	00.0	4	02.25	....	....	5	08.5	6	02.5	6	06.0
9	3	02.5	2	09.0	3	02.5	3	05.0	3	04.5	....	....	4	08.5	5	07.0	6	04.0
10	4	01.75	3	05.5	3	07.0	3	04.0	3	01.25	....	....	3	11.0	4	10.66	5	09.0
11	5	02.0	4	06.25	4	06.0	3	10.0	3	02.0	....	....	3	05.0	4	03.25	4	11.5

Date.	FEBRUARY, 1872.																	
Time.	5		6		7		8		9		10		11		12		13	
	Feet.	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*
0^h	4	02.5	5	01.0	5	10.0	6	11.75	7	04.25	7	04.5	6	08.0	5	10.33	4	07.75
1	3	08.0	4	03.0	5	00.25	6	04.5	7	03.0	7	08.5	7	06.0	6	11.66	5	11.0
2	3	04.0	3	05.0	3	11.0	5	02.0	6	03.0	7	04.25	7	08.0	7	07.25	6	10.0
3	3	04.0	3	00.0	3	00.0	3	10.0	5	02.5	6	03.0	7	01.5	7	07.75	7	01.5
4	3	07.5	2	11.5	2	07.25	2	11.66	3	09.75	4	08.5	5	11.0	6	10.0	6	08.0
5	4	05.0	3	02.5	2	05.5	2	05.33	2	11.0	3	03.66	4	06.0	5	06.0	6	00.0
6	4	11.5	3	09.0	2	09.0	2	03.75	2	03.75	2	03.5	2	11.0	4	00.0	4	08.0
7	5	08.5	4	07.5	3	05.0	2	09.0	2	04.0	2	00.0	2	00.25	2	08.0	3	04.66
8	6	03.25	5	07.66	4	10.25	3	09.5	2	10.0	2	03.5	1	10.0	2	01.0	2	05.75
9	6	06.0	6	05.0	6	00.0	5	03.0	4	00.0	3	02.5	2	04.0	2	02.0	2	02.0
10	6	05.25	6	11.5	6	11.5	6	03.0	5	09.5	4	05.0	3	04.33	2	10.0	2	05.33
11	6	02.0	6	10.75	7	06.0	7	04.0	7	04.5	5	09.0	4	10.33	4	01.5	3	02.0
Noon.	5	08.0	6	06.0	7	06.0	7	09.5	8	05.33	8	00.0	6	07.00	5	09.5	4	06.0
1^h	[illegible]	01.0	5	10.0	6	11.33	7	08.5	8	07.0	8	09.0	8	00.5	7	01.5	5	10.0
2	4	07.0	4	11.5	5	10.33	6	11.0	8	02.0	8	08.0	8	06.0	8	00.0	7	00.0
3	4	03.66	4	02.75	4	10.25	5	10.0	7	02.0	7	11.5	8	03.0	8	01.0	7	06.0
4	4	03.66	3	09.0	3	09.25	4	04.5	5	08.5	6	08.66	7	02.5	7	07.0	7	04.0
5	4	07.0	3	08.0	3	03.5	3	04.33	4	01.0	5	01.75	6	09.0	6	04.5	6	08.0
6	5	01.25	4	00.0	3	04.0	2	09.66	3	00.0	3	09.0	4	02.0	4	11.66	5	06.75
7	5	07.75	4	07.0	3	10.0	2	11.0	2	06.0	2	10.25	3	00.33	3	05.25	4	03.0
8	6	01.0	5	04.0	4	08.5	3	07.5	2	10.5	2	08.75	2	06.0	2	07.0	3	02.75
9	6	04.0	5	11.0	5	08.75	4	08.75	3	10.3	3	03.5	2	07.0	2	04.0	2	08.25
10	6	02.0	6	03.75	6	06.0	5	10.5	5	03.0	4	03.5	3	03.0	2	07.75	2	06.75
11	5	09.5	6	03.5	7	00.0	6	11.0	6	06.0	5	06.0	4	05.0	3	05.0	2	11.5

Date.	FEBRUARY, 1872.																	
Time.	14		15		16		17		18		19		20		21		22	
	Feet.	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*
0^h	3	10.33	3	03.5	3	05.0	3	05.5	5	02.5	4	10.5	5	05.0	5	08.5	5	08.0
1	5	00.5	4	04.0	4	00.0	3	06.75	5	00.5	4	07.5	4	10.0	5	02.0	5	02.95
2	5	10.5	5	03.0	4	07.0	3	11.5	4	10.5	4	06.0	4	04.0	4	04.0	4	03.5
3	6	05.75	5	10.0	5	03.25	4	05.0	5	02.0	4	05.0	4	00.0	3	10.5	3	06.0
4	6	06.5	6	01.5	5	08.5	5	00.0	5	07.33	4	05.5	3	09.5	3	07.0	2	09.5
5	6	02.0	6	01.0	5	10.66	5	05.0	5	11.5	4	07.0	3	10.25	3	06.0	2	05.25
6	5	04.0	5	09.0	5	09.5	5	07.5	6	04.5	4	10.5	4	04.5	3	08.0	2	05.0
7	4	01.5	4	11.5	5	04.5	5	08.5	6	06.0	5	03.5	4	11.75	4	02.0	2	08.5
8	3	00.5	4	00.75	4	09.5	5	07.5	6	06.0	5	09.0	5	08.5	5	00.5	3	05.0
9	2	05.5	3	06.0	4	02.0	5	04.0	6	05.66	6	01.0	6	07.0	5	09.0	4	08.0
10	2	06.0	3	03.75	3	10.25	5	01.0	6	02.0	6	03.0	6	10.5	6	04.0	5	07.5
11	3	00.0	3	04.25	3	09.25	4	10.5	6	00.0	6	02.25	7	00.0	6	07.0	6	05.0
Noon.	3	09.5	3	11.75	3	10.0	4	08.25	5	08.0	5	11.0	6	10.0	6	02.25	6	08.0
1^h	4	10.5	4	10.0	4	01.0	4	08.66	5	05.5	5	06.25	6	01.5	5	11.5	6	06.0
2	5	10.0	5	09.0	4	08.5	5	02.0	5	04.5	5	00.25	5	05.5	5	03.0	6	00.0
3	6	07.5	6	05.75	5	03.0	5	06.25	5	05.5	4	07.0	4	10.0	4	05.75	4	10.0
4	6	10.5	6	09.75	5	08.0	5	10.25	5	07.66	4	05.25	4	06.0	3	09.0	3	09.5
5	6	07.0	6	10.0	5	10.5	6	01.0	5	10.0	4	05.5	4	05.0	3	04.5	3	01.5
6	5	10.5	6	05.25	5	10.33	6	04.0	6	00.5	4	07.5	4	08.0	3	03.0	2	10.66
7	4	08.5	5	09.0	5	06.0	6	06.0	6	01.5	5	00.0	5	02.75	3	05.0	3	00.5
8	3	07.5	4	10.5	4	11.75	6	05.0	6	00.75	5	04.0	5	08.5	4	01.0	3	08.0
9	2	10.5	4	00.5	4	04.25	6	02.5	5	11.75	5	09.0	6	00.5	4	09.25	4	06.5
10	2	07.33	3	06.33	3	10.0	5	10.25	5	08.75	5	10.0	6	03.0	5	04.0	5	05.5
11	2	08.0	3	03.75	3	06.5	5	05.33	5	03.25	5	09.5	6	01.0	5	08.25	6	00.0

Date.	FEBRUARY, 1872.														MARCH, 1872.			
Time.	23		24		25		26		27		28		29		6		7	
	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.
0^{h}	6	02.0	6	04.0	6	09.75	7	02.0	5	06.0	4	09.5	4	03.0	4	03.5	5	02.0
1	5	11.0	6	03.33	7	01.5	7	06.5	6	05.5	5	10.0	5	00.0	3	07.0	4	06.0
2	5	01.25	5	08.66	6	11.0	7	06.0	6	08.0	6	05.0	5	11.0	3	02.0	3	05.5
3	4	00.0	4	10.0	6	00.5	6	10.5	6	06.75	6	04.5	6	03.0	2	11.0	2	07.0
4	3	00.5	3	08.0	4	10.0	5	08.0	5	05.0	5	08.5	6	01.0	2	10.5	2	00.5
5	2	05.0	2	08.66	3	09.5	4	03.0	4	02.0	4	08.5	5	05.0	2	11.0	2	00.0
6	2	02.0	2	03.0	3	00.0	3	02.0	3	00.0	3	05.0	4	04.5	3	05.5	2	02.75
7	2	03.25	2	02.66	2	09.5	2	07.0	2	01.0	2	01.5	3	03.5	4	04.0	2	11.0
8	3	00.0	2	07.0	3	01.5	2	07.0	1	10.25	1	09.5	2	06.0	5	02.0	4	00.66
9	4	02.5	3	08.0	3	11.5	3	01.0	2	01.5	1	09.5	2	02.5	5	09.5	5	01.66
10	5	04.25	5	00.0	5	02.0	4	00.0	3	01.0	2	04.0	2	04.0	6	01.0	5	11.0
11	6	05.5	6	03.0	6	09.0	5	04.5	4	05.0	3	04.0	3	01.5	6	01.0	6	04.0
Noon.	7	00.0	7	00.5	8	00.0	6	07.5	5	07.0	4	10.0	4	03.0	6	00.0	6	03.5
1^{h}	6	11.66	7	04.5	8	07.0	7	04.0	6	08.5	5	10.5	5	05.0	5	05.25	5	08.75
2	6	05.0	7	02.0	8	06.5	7	05.5	7	02.0	6	08.75	6	02.0	4	06.5	5	00.0
3	5	04.25	6	03.0	7	09.0	7	00.0	7	00.0	6	10.0	.....	....	3	09.75	3	09.5
4	4	02.5	4	11.5	6	04.0	6	00.0	6	02.0	6	03.0	.....	....	3	04.75	2	10.0
5	3	03.25	3	10.5	5	01.5	4	07.5	4	10.5	5	03.0	.....	....	3	05.0	2	04.25
6	2	08.5	3	00.0	4	01.25	3	02.5	3	07.5	4	00.5	.....	....	3	06.0	2	03.0
7	2	09.5	2	08.66	3	04.5	2	03.0	2	04.0	2	09.5	.....	....	3	09.0	2	06.0
8	3	04.0	3	00.0	3	05.0	2	00.0	1	08.0	1	11.0	.....	....	4	02.0	3	05.5
9	3	10.5	3	09.0	4	01.5	2	03.0	1	05.5	1	08.0	.....	....	4	08.5	4	05.5
10	5	00.5	5	00.0	5	01.5	3	01.0	2	04.0	2	01.0	.....	....	5	02.0	5	03.75
11	5	11.0	6	00.0	6	02.0	4	05.0	3	07.5	3	00.0	.....	....	5	03.0	5	09.75

Date.	MARCH, 1872.																	
Time.	8		9		10		11		12		13		14		15		16	
	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.
0^{h}	5	10.0	6	00.5	6	00.5	5	10.25	5	09.0	4	08.75	3	08.5	3	02.0	2	10.5
1	5	02.0	5	08.75	6	03.25	6	06.0	6	07.0	5	10.0	4	11.0	4	00.25	3	09.5
2	4	01.0	4	08.0	5	09.5	6	03.75	6	11.75	6	05.75	5	10.0	5	00.0	4	07.75
3	2	11.0	3	04.5	4	06.5	6	00.0	6	10.0	6	06.5	6	00.5	5	07.0	5	02.0
4	1	11.0	2	03.5	2	11.5	4	06.0	6	00.33	6	02.0	6	00.5	5	08.0	5	06.0
5	1	05.0	1	03.0	1	08.0	3	00.0	4	03.0	4	11.5	5	05.0	5	06.0	5	06.0
6	1	05.0	0	11.0	0	11.0	1	11.5	2	08.5	3	08.5	4	03.75	4	10.5	5	04.0
7	1	08.0	1	00.0	0	10.0	1	05.0	1	10.5	2	06.66	3	04.75	4	00.0	4	11.0
8	2	10.5	1	11.0	1	05.0	1	04.0	1	07.0	2	00.0	2	06.0	3	03.0	4	03.0
9	3	11.0	3	02.5	2	10.0	1	07.5	1	10.5	2	00.0	2	00.5	2	09.0	3	09.5
10	5	01.5	4	11.66	4	03.5	3	00.5	2	11.0	2	00.66	2	01.0	2	08.0	3	06.0
11	6	00.0	6	04.0	5	11.0	4	06.0	4	03.0	3	05.66	2	06.0	2	10.5	3	06.0
Noon.	6	03.0	6	09.0	6	10.0	6	00.33	5	08.0	4	10.0	3	08.0	3	08.5	3	08.0
1^{h}	6	02.0	6	09.0	7	03.5	6	10.75	6	09.0	6	00.0	4	09.75	4	05.0	4	02.0
2	5	04.5	6	00.75	7	02.0	7	00.0	7	02.5	6	09.0	5	09.0	5	02.0	4	07.5
3	4	08.5	4	09.5	5	10.5	6	07.66	7	02.0	6	09.5	6	00.0	5	03.5	5	00.0
4	3	09.5	3	04.0	4	04.0	5	04.0	6	04.5	6	04.0	5	10.0	5	04.25	5	04.0
5	2	06.0	1	11.0	2	09.5	3	10.0	4	09.0	5	05.0	5	04.0	5	03.0	5	04.0
6	1	06.0	1	02.25	1	08.5	2	05.0	3	02.33	3	09.0	4	04.5	4	09.0	5	03.0
7	1	07.5	1	01.0	1	04.5	1	06.0	2	02.0	2	09.0	3	04.0	4	00.0	4	08.5
8	2	04.75	1	05.0	1	08.0	1	04.5	1	09.0	2	00.0	2	05.0	3	02.0	3	10.5
9	3	05.0	2	05.0	2	06.5	1	06.5	1	09.5	1	08.5	2	00.0	2	08.5	3	05.0
10	4	08.5	4	00.66	3	05.5	2	11.0	2	00.5	1	10.0	2	00.0	2	07.5	3	03.0
11	5	07.0	5	03.5	4	07.0	4	03.0	3	05.0	2	06.5	2	03.5	2	07.5	3	02.5

Date.	MARCH, 1872.																	
Time.	17		18		19		20		21		22		23		24		25	
	Feet.	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*
0^h	3	04.25	3	01.0	3	07.5	4	01.0	4	05.0	4	10.0	5	05.0	5	09.0	5	10.0
1	3	09.0	3	02.0	3	05.75	3	09.0	3	09.5	4	02.5	5	01.0	5	06.0	5	11.0
2	4	03.0	3	04.0	3	04.25	3	05.0	3	04.0	3	05.5	3	11.0	4	08.0	5	02.5
3	4	07.5	3	07.75	3	03.75	3	03.0	2	10.0	2	07.5	2	10.0	3	05.0	4	00.5
4	5	00.0	4	00.5	3	04.75	3	03.0	2	06.5	2	00.75	2	00.0	2	03.0	2	07.5
5	5	02.5	4	04.0	3	07.00	3	07.0	2	06.5	1	10.5	1	06.5	1	05.0	1	06.0
6	5	02.5	4	06.0	4	02.0	4	01.0	2	08.5	2	01.0	1	05.0	1	01.5	0	00.5
7	5	00.0	4	07.0	4	06.0	4	07.0	3	02.5	2	07.5	1	09.0	1	03.0	0	00.0
8	4	08.5	4	07.0	4	10.0	5	01.5	3	09.5	3	06.0	2	10.0	2	02.3	1	09.0
9	4	05.0	4	06.66	4	10.5	5	06.0	4	05.25	4	06.0	4	01.0	3	05.0	2	00.0
10	4	02.25	4	05.0	4	11.5	5	08.0	4	08.5	5	01.5	5	01.5	4	08.5	4	01.5
11	3	10.5	4	01.5	4	08.5	5	07.0	5	04.0	5	05.0	5	09.5	5	09.5	5	04.5
Noon.	3	09.0	3	10.0	4	05.0	5	02.5	5	03.0	5	06.0	6	00.5	6	03.25	6	03.0
1^h	3	11.0	3	09.0	4	01.5	4	07.5	4	09.0	5	03.0	5	08.5	6	03.00	6	05.25
2	4	02.5	3	07.5	3	10.5	4	02.0	4	00.0	4	03.0	4	09.0	5	07.75	5	09.0
3	4	06.5	3	07.5	3	09.25	3	07.0	3	04.5	3	02.0	3	07.0	4	01.0	4	08.0
4	4	07.0	3	08.5	3	09.0	3	06.0	2	08.0	2	03.66	2	07.0	2	09.0	3	02.5
5	4	07.5	3	09.5	3	09.5	3	06.66	2	03.0	1	09.75	1	10.0	1	07.0	1	09.0
6	4	07.5	3	11.0	3	10.0	3	08.75	2	05.0	1	09.75	1	06.0	1	00.75	0	11.0
7	4	05.5	4	00.0	4	00.5	4	00.0	3	01.5	2	03.5	1	07.5	1	01.33	0	07.75
8	4	00.25	4	00.5	4	03.0	4	04.5	3	09.5	3	00.0	2	07.5	1	10.0	1	02.0
9	3	07.0	4	00.5	4	06.5	4	08.5	4	05.5	3	11.0	3	09.5	3	00.5	2	04.0
10	3	04.0	3	11.0	4	07.0	4	11.66	4	11.75	4	08.5	4	08.0	4	03.0	3	11.0
11	3	02.0	3	08.5	4	06.0	4	10.0	5	01.5	5	03.0	5	05.0	5	02.5	5	04.25

Date.	MARCH, 1872.												APRIL, 1872.					
Time.	26		27		28		29		30		31		1		2		3	
	Feet.	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*
0^h	6	03.9	5	09.5	5	03.0	4	06.0	3	08.0	2	09.5	2	05.66	2	05.5	3	00.0
1	6	06.0	6	05.5	6	03.5	5	08.0	4	10.25	3	10.0	3	01.66	2	07.0	2	08.5
2	6	01.0	6	06.0	6	07.5	6	05.0	5	11.0	4	09.5	3	11.0	2	11.5	2	08.0
3	5	01.0	5	09.0	6	03.5	6	06.0	6	03.0	5	04.0	4	06.5	3	06.5	2	10.5
4	3	08.0	4	05.75	5	03.5	5	10.0	6	00.0	5	07.0	5	01.25	4	01.0	3	05.0
5	2	04.0	3	00.0	3	11.0	4	09.5	5	03.0	5	04.5	5	01.66	4	06.75	3	11.5
6	1	05.5	1	09.5	2	06.25	3	06.0	4	03.0	4	11.5	4	10.0	4	11.5	4	05.5
7	1	01.5	1	01.25	1	07.33	2	05.0	3	02.5	4	01.75	4	03.0	5	01.0	5	00.0
8	1	05.5	1	00.5	1	04.0	1	09.5	2	06.25	3	04.0	3	09.0	5	01.0	5	05.0
9	2	05.0	1	09.25	1	07.75	1	08.75	2	03.0	2	10.0	3	04.5	4	07.5	5	06.0
10	3	09.75	3	01.0	2	07.25	2	04.0	2	04.5	2	08.0	3	02.0	4	02.75	5	04.5
11	5	03.0	4	06.0	3	11.0	3	05.0	3	00.5	2	10.0	3	01.5	3	09.75	4	11.0
Noon.	6	04.0	5	07.66	5	01.0	4	06.0	3	10.0	3	04.25	3	02.0	3	05.66	4	03.0
1^h	6	10.5	6	05.5	6	02.0	5	05.5	4	09.25	4	00.0	3	05.5	3	03.5	3	07.5
2	6	07.75	6	07.0	6	07.0	6	06.0	5	05.0	4	06.0	3	09.5	3	04.0	3	03.0
3	5	07.5	6	00.0	6	02.5	6	02.0	5	08.0	4	11.0	4	01.25	3	05.0	3	01.5
4	4	01.66	4	09.0	5	03.25	5	08.0	5	07.0	5	00.0	4	04.25	3	07.5	3	01.75
5	2	06.0	3	01.5	3	11.25	4	07.0	4	11.5	4	11.5	4	06.5	3	11.5	3	04.25
6	1	03.33	1	08.5	2	06.0	3	04.0	4	00.0	4	06.0	4	06.5	4	03.75	3	11.0
7	0	09.0	0	10.0	1	04.0	2	01.0	2	11.25	3	09.5	4	03.66	4	05.75	4	05.0
8	0	10.75	0	07.5	0	10.5	1	04.0	2	01.0	3	00.0	3	10.5	4	05.75	4	11.0
9	1	09.66	1	01.5	1	00.0	1	02.0	1	08.5	2	05.0	3	04.0	4	04.0	5	02.0
10	3	00.5	2	03.75	1	09.5	1	07.0	1	07.0	2	01.0	2	10.0	3	11.0	5	00.0
11	4	06.5	3	11.0	3	00.0	2	06.25	2	00.0	2	01.0	2	06.5	3	05.5	4	07.5

Date.	APRIL, 1872.																	
Time.	4		5		6		7		8		9		10		11		12	
	Feet.	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*
0^h	3	11.5	4	10.0	5	10.25	6	09.33	6	11.0	6	04.25	5	11.5	5	01.25	4	05.5
1	3	04.5	3	11.0	4	08.5	6	04.0	6	11.0	6	10.75	6	09.5	6	02.0	5	06.5
2	2	09.25	3	00.75	3	05.5	5	03.0	5	11.0	6	08.0	6	11.5	6	07.66	6	03.5
3	2	06.0	2	04.66	2	07.25	3	09.66	4	05.0	5	08.5	6	03.5	6	06.0	6	04.75
4	2	07.5	2	01.5	1	10.5	2	07.25	3	01.0	4	02.5	5	01.0	5	07.33	5	10.5
5	3	01.5	2	03.5	1	08.5	1	09.75	1	10.5	2	08.0	3	06.5	4	05.0	4	08.5
6	3	11.5	3	05.0	2	02.5	1	07.5	1	03.5	1	07.0	2	05.0	3	00.66	3	10.25
7	4	10.0	4	01.0	3	05.0	2	05.0	1	03.0	1	01.0	1	07.0	2	05.0	3	05.0
8	5	08.0	5	02.0	4	03.0	3	01.5	1	10.5	1	04.75	1	06.0	1	07.75	2	02.5
9	6	01.5	6	00.0	5	03.0	4	06.5	3	01.0	2	05.0	2	00.33	1	09.0	2	01.33
10	6	02.25	6	07.0	6	04.66	6	00.0	4	07.0	3	08.5	3	02.0	2	07.0	2	06.5
11	5	10.75	6	06.5	6	11.66	6	11.0	6	00.0	5	02.5	4	07.0	3	10.0	3	04.75
Noon.	5	06.0	6	04.0	6	11.25	7	03.5	6	11.0	6	03.5	5	08.5	5	05.0	4	05.5
1^h	4	11.25	5	00.5	6	03.5	6	11.25	7	01.5	6	10.0	6	06.0	5	11.0	5	03.5
2	4	03.0	3	11.5	4	11.5	5	11.0	6	06.5	6	08.0	6	08.5	6	04.0	5	07.5
3	3	06.0	2	11.0	3	11.0	4	05.0	5	03.5	5	08.5	6	02.0	6	01.66	5	11.5
4	2	05.0	2	02.0	2	06.0	2	11.66	3	10.5	4	04.0	4	11.5	5	03.0	5	05.75
5	2	08.5	2	00.0	1	09.0	1	09.5	2	03.5	2	10.5	3	05.5	3	11.0	4	06.5
6	3	03.5	2	05.0	1	07.25	1	03.5	1	03.5	1	07.5	2	02.5	2	07.0	3	05.5
7	3	11.0	3	03.0	2	00.0	1	05.5	0	11.5	1	00.0	1	02.0	1	08.0	2	05.0
8	4	09.5	4	04.0	3	01.0	2	04.0	1	04.0	1	07.5	0	11.5	1	03.5	1	10.0
9	5	05.5	5	05.0	4	04.0	3	08.0	2	03.33	1	10.5	1	05.0	1	04.5	1	09.0
10	5	08.0	6	01.5	5	08.0	5	00.0	3	09.0	3	02.75	2	06.0	2	02.5	2	02.0
11	5	06.25	6	03.75	6	06.66	6	02.5	5	01.5	4	08.0	3	09.75	3	04.0	2	11.0

Date.	APRIL, 1872.																	
Time.	13		14		15		16		17		18		19		20		21	
	Feet.	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*	*Feet.*	*Inches.*
0^h	3	11.5	3	06.5	3	02.5	2	09.5	3	01.25	3	05.5	3	07.75	3	11.0	5	04.0
1	5	00.0	4	04.75	3	09.0	3	01.5	3	08.0	3	01.75	3	01.0	3	05.0	4	07.66
2	5	09.0	5	02.0	4	01.0	3	05.5	3	01.66	3	00.0	2	08.0	2	08.0	3	08.0
3	6	01.0	5	09.0	4	10.0	3	09.5	3	04.5	3	00.5	2	03.0	1	11.5	2	08.25
4	6	00.0	5	10.25	5	02.5	4	02.5	3	08.75	3	04.0	2	02.0	1	08.5	2	01.0
5	5	05.5	5	09.0	5	03.25	4	05.0	4	02.25	3	08.0	2	04.2	1	07.75	1	10.0
6	4	08.0	5	02.0	5	01.0	4	08.0	4	07.0	4	01.75	2	11.5	2	01.0	1	11.5
7	3	09.25	4	07.0	4	09.25	4	08.33	4	10.5	4	08.0	3	07.5	2	10.5	2	08.0
8	3	01.0	3	11.5	4	03.66	4	06.5	4	11.5	5	00.66	4	03.0	3	09.75	3	09.0
9	2	07.0	3	05.75	3	10.0	4	02.5	4	11.5	5	01.5	5	08.5	4	07.66	4	10.5
10	2	09.5	3	03.5	3	06.0	3	09.75	4	09.0	5	02.0	5	00.0	5	02.25	5	09.0
11	3	05.5	3	05.0	3	04.5	3	06.0	4	03.5	4	11.0	4	11.0	5	05.5	6	02.5
Noon.	4	02.5	3	09.75	3	05.5	3	04.25	3	11.0	4	05.0	4	05.5	5	02.25	6	02.5
1^h	4	10.75	4	04.5	3	09.33	3	04.0	3	06.5	3	09.75	3	08.0	4	05.0	5	05.5
2	5	05.66	4	10.0	4	01.25	3	05.0	3	04.0	3	03.0	2	11.0	3	06.0	4	03.66
3	5	07.75	5	00.75	4	03.66	3	06.5	3	03.75	2	10.75	2	02.0	2	05.5	3	01.0
4	5	06.0	5	01.75	4	05.5	3	08.0	3	04.75	2	09.5	1	08.66	1	10.5	2	01.5
5	4	11.0	4	11.5	4	05.66	3	11.0	3	07.0	2	11.0	1	08.33	1	08.0	1	07.0
6	4	01.5	4	04.0	4	02.5	4	00.0	3	10.0	3	02.25	2	00.75	1	08.5	1	06.75
7	3	02.66	3	08.0	3	10.0	4	00.0	4	01.0	3	07.0	2	08.0	2	07.75	1	11.75
8	2	07.25	3	01.66	3	05.75	3	09.5	4	01.5	4	00.0	3	05.5	3	05.75	3	00.75
9	2	04.5	2	09.0	3	05.0	3	06.75	4	01.5	4	03.0	4	01.0	4	05.5	4	03.0
10	2	05.75	2	08.0	2	08.0	3	04.0	4	00.0	4	03.0	4	04.5	5	01.0	5	02.75
11	2	11.0	2	09.5	2	09.0	3	02.5	3	08.75	4	00.75	4	04.5	5	05.0	6	00.0

Date.	APRIL, 1872.																	
Time.	22		23		24		25		26		27		28		29		30	
	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.
0h	6	00.0	7	04.5	6	06.0	6	05.5	5	07.0	4	05.75	3	08.0	2	11.25	2	06.5
1	5	06.5	7	00.0	6	07.0	6	11.66	6	04.5	5	07.25	4	11.5	3	11.25	3	01.5
2	4	06.5	5	09.75	5	11.0	6	08.0	6	06.5	6	03.25	5	10.5	4	10.75	3	09.25
3	3	02.75	4	04.0	4	08.0	5	08.25	5	11.0	6	03.0	6	02.25	5	06.5	4	07.0
4	2	04.0	2	10.75	3	03.5	4	03.5	4	11.0	5	06.75	6	00.0	5	09.5	5	00.75
5	1	09.0	1	09.5	2	01.0	2	09.5	3	06.5	4	04.5	5	05.5	5	09.0	5	03.25
6	1	07.0	1	05.75	1	03.5	1	08.5	2	03.0	3	02.0	4	04.25	5	02.5	5	03.25
7	2	00.5	1	10.0	1	01.25	1	02.0	1	04.5	2	00.75	3	04.5	4	05.0	5	00.5
8	3	02.5	2	08.0	1	07.5	1	05.0	1	02.8	1	06.0	2	06.0	----	------	4	05.5
9	4	06.0	3	10.0	2	10.0	2	05.0	1	08.0	1	05.5	2	01.0	3	00.0	3	11.0
10	5	08.0	5	00.0	4	02.0	3	05.0	2	07.5	2	02.0	1	02.5	2	08.25	3	02.5
11	6	06.0	5	11.0	5	05.0	5	01.0	3	10.5	3	02.0	2	09.0	2	09.5	2	10.66
Noon.	6	08.8	6	05.5	6	03.5	5	11.0	4	10.25	4	03.5	3	06.0	3	01.5	2	03.0
1h	6	04.0	6	03.75	6	06.5	6	04.5	5	09.0	5	01.0	4	05.0	3	08.66	3	00.0
2	5	02.0	5	04.0	5	11.0	6	03.0	5	11.5	5	07.25	5	01.0	4	02.75	3	04.5
3	3	09.5	3	10.75	4	07.5	5	03.0	5	05.0	5	08.0	5	04.0	4	07.5	3	09.0
4	2	06.5	2	05.5	3	01.0	3	09.5	4	04.0	5	01.5	5	03.0	4	10.0	4	01.0
5	1	07.0	1	02.0	1	07.0	2	01.5	----	------	4	00.0	4	07.75	4	09.75	4	03.5
6	1	04.0	0	07.5	0	06.0	0	10.75	1	07.0	2	08.5	3	08.0	4	04.5	4	04.0
7	1	10.25	0	08.0	0	03.5	0	03.75	0	07.25	1	06.25	2	07.5	3	07.5	4	05.5
8	2	11.25	1	07.0	0	09.5	0	05.66	0	04.0	0	11.5	1	10.5	2	10.5	3	09.5
9	4	05.5	3	01.0	2	02.25	1	03.25	0	07.75	0	11.5	1	06.33	2	03.75	3	02.75
10	5	10.25	4	05.0	2	08.0	2	07.5	1	08.5	1	06.5	1	07.25	2	01.0	2	09.5
11	6	11.5	5	09.0	5	03.25	4	05.0	3	01.0	2	06.0	2	01.0	2	01.75	2	06.5

Date.	MAY, 1872.																	
Time.	1		2		3		4		5		6		7		8		9	
	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.
0h	2	05.5	2	11.0	3	10.0	5	01.0	5	08.75	6	04.25	6	07.66	6	10.75	6	07.0
1	2	06.25	2	08.5	3	02.0	4	02.0	4	10.0	5	08.0	6	03.66	6	10.75	7	00.5
2	2	11.0	2	07.0	2	07.75	3	05.25	3	09.0	4	08.0	5	04.0	6	02.5	6	07.5
3	3	04.75	2	08.5	2	05.0	2	08.0	2	08.25	3	05.0	4	01.25	4	11.5	5	09.0
4	4	05.0	3	01.5	2	06.5	2	05.25	2	01.0	2	05.0	2	09.5	3	09.25	4	07.0
5	4	08.0	3	09.5	3	02.5	2	07.75	1	11.5	1	10.0	1	10.0	2	05.25	3	04.75
6	5	01.5	4	08.0	4	00.0	3	04.0	2	04.25	1	10.25	1	06.0	1	09.5	2	05.0
7	5	02.5	5	03.0	4	10.5	4	04.5	3	02.5	2	06.0	1	08.5	1	08.5	2	01.0
8	5	01.0	5	06.25	5	07.25	5	03.25	4	05.75	3	06.0	2	07.0	2	05.0	2	03.5
9	4	08.0	5	05.25	6	00.0	6	00.75	5	07.0	4	07.5	3	11.0	3	05.66	2	01.75
10	4	01.5	5	01.75	6	00.0	6	05.25	6	03.0	5	08.5	5	01.0	4	08.5	4	04.0
11	3	06.5	4	06.25	5	02.0	6	04.0	6	05.66	6	05.25	6	00.0	5	09.0	5	05.0
Noon.	3	01.5	3	10.0	4	07.0	5	09.0	6	02.0	6	05.66	6	05.75	6	04.5	6	03.25
1h	2	10.5	3	01.75	3	08.5	4	08.0	5	02.25	5	10.0	6	01.5	6	05.25	6	07.0
2	2	10.5	2	08.25	2	11.0	3	07.5	4	01.5	4	06.0	5	02.75	5	09.25	6	04.0
3	2	11.5	2	06.5	2	04.75	2	07.5	2	10.0	3	02.0	3	10.0	4	06.0	5	05.25
4	3	02.0	2	07.5	2	02.66	1	11.5	1	10.0	2	10.0	2	05.25	3	05.25	4	00.75
5	3	06.25	3	00.0	2	05.5	1	10.0	1	04.0	1	02.0	1	05.0	1	11.5	2	10.5
6	3	10.25	3	07.75	3	00.0	2	01.5	1	05.5	1	00.0	0	11.75	1	03.5	1	11.25
7	4	03.0	4	08.5	3	10.5	2	10.75	2	04.5	1	06.5	1	01.5	1	01.5	1	07.25
8	4	04.0	4	10.0	4	08.5	3	10.75	3	04.0	2	07.0	2	00.0	1	08.5	2	00.5
9	4	03.0	5	00.66	5	05.5	5	02.5	4	06.0	3	10.25	3	03.0	2	10.0	2	09.0
10	3	10.0	4	10.33	5	09.3	5	10.5	5	08.5	5	02.25	4	04.5	4	01.0	3	09.5
11	3	04.0	4	05.33	5	08.0	6	00.0	6	04.25	6	02.75	6	00.0	5	05.66	4	07.5

Date.	MAY, 1872.																	
Time.	10		11		12		13		14		15		16		17		18	
	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.
0h	5	03.5	5	07.5	5	01.0	4	02.0	3	05.75	3	03.5	2	10.75	3	00.0	3	04.0
1	7	01.75	6	07.0	6	01.0	5	00.0	4	02.0	3	08.75	3	00.0	2	10.0	2	11.75
2	7	01.25	7	00.25	6	08.0	5	08.0	5	00.75	4	02.75	3	05.0	2	09.5	2	08.0
3	6	06.75	6	10.5	6	09.0	6	00.0	5	03.5	4	07.5	3	08.5	3	01.5	2	06.25
4	5	06.0	6	01.5	6	04.0	6	00.0	5	05.25	4	11.5	4	02.0	3	06.0	2	08.5
5	4	04.5	5	02.5	5	07.0	5	07.5	5	04.25	4	11.0	4	07.25	4	00.5	3	05.5
6	3	03.5	4	00.5	4	07.0	5	00.0	4	11.75	4	09.75	4	10.5	4	06.25	4	00.0
7	2	07.0	3	03.5	3	09.0	4	03.25	4	04.5	4	04.5	5	00.0	4	10.5	4	07.5
8	2	06.0	2	10.5	3	02.0	3	07.75	3	10.25	3	11.5	4	11.66	5	01.0	5	00.0
9	3	00.0	3	00.0	2	10.5	2	03.25	3	05.5	3	10.5	4	07.25	4	11.5	5	01.5
10	3	11.25	3	06.25	3	01.75	2	02.75	3	02.5	3	05.25	4	00.5	4	07.25	4	11.5
11	4	11.5	4	05.0	3	09.75	2	06.5	3	02.0	3	04.5	3	07.0	4	00.5	4	06.0
Noon.	5	10.5	5	03.0	4	06.0	3	00.66	3	05.5	3	01.5	3	02.25	3	05.75	3	09.33
1h	6	04.5	5	10.5	5	02.75	4	07.5	3	11.0	3	02.0	2	11.75	3	00.5	2	11.0
2	6	05.5	6	01.5	5	05.0	5	00.33	4	03.5	3	05.0	2	11.0	2	08.33	2	05.0
3	5	11.0	5	11.5	5	06.25	5	02.75	4	07.25	3	08.0	3	00.25	2	07.5	2	01.25
4	4	10.0	5	03.0	5	00.0	5	01.5	4	08.0	3	10.75	3	03.5	2	09.0	2	01.0
5	3	08.25	4	02.75	4	03.33	4	07.75	4	06.75	4	00.66	3	07.0	3	02.0	2	06.0
6	2	08.0	3	02.5	3	04.66	3	10.5	4	02.75	4	01.0	3	11.0	3	07.0	3	00.75
7	2	02.0	2	08.0	2	07.75	3	04.0	3	09.66	3	11.66	4	00.75	4	00.0	3	09.0
8	2	01.25	2	04.25	2	03.5	2	09.5	3	04.0	3	07.25	4	02.5	4	09.0	4	05.0
9	2	06.0	2	06.5	2	03.66	2	07.0	3	00.33	3	05.0	3	10.25	4	05.5	4	09.75
10	3	04.0	3	02.0	2	07.5	2	07.75	2	11.25	3	01.5	3	07.0	4	02.5	4	10.0
11	4	05.5	4	00.0	3	03.5	2	11.75	3	00.0	2	11.5	3	03.25	3	09.75	4	06.0

Date.	MAY, 1872.																	
Time.	19		20		21		Time.	22		Time.	22		Time.	23	
	Feet.	Inches.	Feet.	Inches	Feet.	Inches.	h.	Feet.	Inches.	h. m.	Feet.	Inches.	h. m.	Feet.	Inches.
0h	3	09.5	4	05.75	5	08.75	0	7	·00.5	5.20	1	01.66	0.00	7	03.75
1	3	01.5	3	08.5	4	10.5	1	6	06.0	5.30	1	01.0	0.10	7	04.25
2	2	05.75	2	09.5	3	10.5	2	5	06.0	5.40	1	00.66	0.20	7	04.25
3	2	04.75	2	02.0	2	09.0	3	4	01.5	5.50	1	00.5	0.30	7	04.0
4	2	03.5	1	08.75	1	11.5	4	2	10.5	6.00	1	00.5	0.40	7	03.75
5	2	06.0	1	08.25	1	09.0	5	2	04.5	6.10	1	00.75	0.50	7	03.5
6	3	02.5	2	03.75	2	00.5	6	2	02.25	6.20	1	01.25	1.00	7	03.0
7	3	11.5	3	03.75	2	11.0	7	2	09.5	6.30	1	02.0	1.10	7	02.0
8	4	08.0	4	01.0	4	00.75	8	3	08.0	6.40	1	03.0	1.20	7	00.66
9	5	02.25	4	11.33	5	01.5	9	4	09.75	6.50	1	04.25	1.30	6	11.25
10	5	02.75	5	04.25	5	10.5	10	5	10.0	7.00	1	05.5	2.00	6	05.75
11	4	11.5	5	04.75	6	02.25	11	6	06.0	7.30	1	11.0	2.30	5	11.25
Noon.	4	02.5	4	11.5	5	10.5	Noon.	6	07.5	8.00	2	06.0	3.00	5	04.25
1h	3	03.0	4	00.0	5	00.0	12.30	6	05.75	8.30	3	02.0	3.30	4	07.25
2	2	03.33	2	10.0	3	08.5	1.00	6	00.75	9.00	4	00.0	4.00	3	10.75
3	1	07.5	1	10.25	2	04.5	1.30	5	07.0	9.30	4	08.5	4.30	3	03.25
4	1	03.5	1	00.0	1	01.75	2.00	4	11.25	10.00	5	06.0	5.00	2	09.25
5	1	05.33	0	11.0	1	02.0	2.30	4	02.25	10.30	6	02.5	5.30	2	05.25
6	2	01.0	1	03.25	1	06.0	3.00	3	06.0	11.00	6	09.0	5.40	2	04.25
7	2	11.0	2	01.0	2	05.0	3.30	2	10.25	11.30	7	01.25	5.50	2	03.5
8	3	10.75	3	03.33	3	08.5	4.00	2	02.25	11.40	7	02.25	6.00	2	03.0
9	4	07.5	4	05.33	5	01.75	4.30	1	08.25	11.50	7	03.25	6.10	2	02.6
10	5	01.0	5	05.5	6	01.5	5.00	1	03.25	....	......	....	6.20	2	02.5
11	5	00.5	5	10.33	6	10.75	5.10	1	02.25	....	......	....	6.30	2	02.5

Date.	MAY, 1872.																
Time.	23		Time.	23		Time.	23		Time.	24		Time.	24		Time.	24	
h. m.	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*
6.40	2	02.9	1.00	7	02.0	8.00	2	01.0	2.30	7	00.5	10.30	5	06.0	6.30	1	07.0
6.50	2	03.7	1.10	7	01.25	8.30	2	09.75	3.00	6	05.25	11.00	6	01.0	6.40	1	06.2
7.00	2	05.6	1.20	7	00.0	9.00	3	06.5	3.30	5	09.0	11.30	6	06.25	6.50	1	05.8
7.10	2	06.1	1.30	6	10.75	9.30	4	04.0	4.00	4	11.75	12.00	6	11.25	7.00	1	05.75
7.20	2	07.2	2.00	6	04.75	10.00	5	01.5	4.30	4	04.5	12.30	7	02.25	7.10	1	05.5
7.30	2	09.6	2.30	5	09.0	10.30	5	10.5	5.00	3	08.75	12.40	7	03.0	7.20	1	05.5
8.00	3	02.5	3.00	4	11.5	11.00	6	07.0	5.30	3	02.5	12.50	7	03.2	7.30	1	05.8
8.30	3	09.0	3.30	4	01.5	11.30	7	02.0	6.00	2	09.5	1.00	7	03.33	7.40	1	06.5
9.00	4	04.5	4.00	3	04.0				6.10	2	08.75	1.10	7	03.5	7.50	1	07.5
9.30	5	00.0	4.30	2	07.5	May 24.			6.20	2	08.0	1.20	7	03.33	8.00	1	09.0
10.00	5	06.75	5.00	2	00.5				6.30	2	07.0	1.30	7	03.0	8.10	1	10.5
10.30	6	01.25	5.30	1	07.66	0.00	7	07.5	6.40	2	06.75	1.40	7	02.2	8.20	1	11.8
11.00	6	06.8	5.40	1	07.33	0.10	7	08.5	6.50	2	05.75	1.50	7	01.1	8.30	2	01.8
11.10	6	08.3	5.50	1	05.33	0.20	7	09.25	7.00	2	06.5	2.00	6	11.8	9.00	2	07.25
11.20	6	09.8	6.00	1	04.5	0.30	7	10.0	7.10	2	06.5	2.10	6	10.0	9.30	3	03.75
11.30	6	11.3	6.10	1	04.0	0.40	7	10.75	7.20	2	06.75	2.20	6	08.3	10.00	4	01.75
11.40	7	00.7	6.20	1	03.75	0.50	7	11.0	7.30	2	07.25	2.30	6	07.2	10.30	4	11.33
11.50	7	01.4	6.30	1	03.66	1.00	7	11.0	7.40	2	08.25	3.00	5	10.2	11.00	5	08.0
12.00	7	02.0	6.40	1	03.5	1.10	7	11.0	7.50	2	09.25	3.30	5	01.5	11.30	6	05.33
12.10	7	02.6	6.50	1	03.75	1.20	7	10.75	8.00	2	10.5	4.00	4	04.0			
12.20	7	02.9	7.00	1	04.33	1.30	7	10.0	8.30	3	03.25	4.30	3	06.0	May 25.		
12.30	7	02.9	7.10	1	05.0	1.40	7	09.0	9.00	3	09.0	5.00	2	11.0			
12.40	7	02.9	7.20	1	06.0	1.50	7	07.75	9.30	4	03.25	5.30	2	03.0	0.00	7	00.33
12.50	7	02.75	7.30	1	07.25	2.00	7	06.0	10.00	4	11.0	6.00	1	10.66	0.30	7	06.25

Date.	MAY, 1872.																
Time.	25		Time.	25		Time.	25		Time.	25		Time.	26		Time.	26	
h. m.	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*
0.40	7	08.0	7.20	2	08.0	2.20	6	11.2	10.00	3	04.75	3.30	7	02.5	11.30	4	10.0
0.50	7	09.25	7.30	2	07.75	2.30	6	10.2	10.30	3	10.0	4.00	6	00.9	12.00	5	03.75
1.00	7	10.0	7.40	2	07.75	2.40	6	09.0	11.00	4	06.5	4.30	6	02.5	12.30	5	09.5
1.10	7	10.75	7.50	2	07.75	2.50	6	07.5	11.30	5	03.33	5.00	5	06.0	1.00	6	01.33
1.20	7	11.25	8.00	2	08.0	3.00	6	05.33				5.30	4	11.5	1.30	6	01.5
1.30	7	11.5	8.10	2	08.5	3.30	5	10.0	May 26.			6.00	4	03.5	1.40	6	05.66
1.40	7	11.75	8.20	2	08.5	4.00	5	02.75				6.30	3	08.5	1.50	6	06.0
1.50	7	11.75	8.30	2	10.25	4.30	4	06.75	0.00	6	00.25	7.00	3	03.75	2.00	6	06.25
2.00	7	11.25	9.00	3	03.0	5.00	3	08.0	0.30	6	07.25	7.30	2	11.75	2.10	6	06.75
2.10	7	10.25	9.30	3	06.5	5.30	3	01.75	1.00	7	02.0	7.40	2	10.7	2.20	6	07.1
2.20	7	09.5	10.00	4	01.75	6.00	2	06.33	1.10	7	03.0	7.50	2	10.2	2.30	6	07.3
2.30	7	08.0	10.30	4	08.25	6.30	2	01.2	1.20	7	04.5	8.00	2	09.5	2.40	6	07.0
3.00	7	02.5	11.00	5	02.75	7.00	1	09.0	1.30	7	05.75	8.10	2	09.2	2.50	6	06.8
3.30	6	07.25	11.30	5	09.0	7.10	1	08.33	1.40	7	06.25	8.20	2	09.25	3.00	6	06.25
4.00	5	11.5	12.00	6	03.6	7.20	1	07.75	1.50	7	07.0	8.30	2	09.2	3.10	6	05.5
4.30	5	02.25	12.30	6	07.5	7.30	1	07.33	2.00	7	07.5	8.40	2	09.25	3.20	6	04.66
5.00	4	08.0	1.00	6	10.66	7.40	1	07.25	2.10	7	07.5	8.50	2	09.5	3.30	6	03.0
5.30	3	11.75	1.10	6	11.33	7.50	1	07.25	2.20	7	07.5	9.00	2	10.0	4.00	5	10.0
6.00	3	05.0	1.20	7	00.0	8.00	1	07.5	2.30	7	07.5	9.10	2	11.0	4.30	5	03.75
6.30	3	00.0	1.30	7	00.25	8.10	1	07.66	2.40	7	07.25	9.20	3	00.0	5.00	4	08.33
6.40	2	10.25	1.40	7	00.8	8.20	1	07.8	2.50	7	06.75	9.30	3	01.0	5.30	4	10.0
6.50	2	09.75	1.50	7	00.75	8.30	1	09.2	3.00	7	06.0	10.00	3	05.5	6.00	3	05.66
7.00	2	09.0	2.00	7	00.5	9.00	2	01.0	3.10	7	05.0	10.30	3	10.5	6.30	2	10.0
7.10	2	08.25	2.10	7	00.1	9.30	2	06.5	3.20	7	04.0	11.00	4	01.5	7.00	2	05.0

Date.	MAY, 1872.																
Time.	26		Time.	27		Time.	27		Time.	27		Time.	27		Time.	28	
h. m.	Feet.	Inches.	h. m.	Feet.	Inches.	h. m.	Feet.	Inches.	h. m.	Feet.	Inches.	h. m.	Feet.	Inches.	h. m.	Feet.	Inches.
7.30	2	01.5	2.00	6	10.5	8.40	2	09.0	3.30	5	09.8	11.30	2	10.5	6.00	5	08.0
8.00	1	11.5	2.10	6	11.75	8.50	2	08.5	3.40	5	09.75				6.30	5	03.25
8.10	1	10.66	2.20	6	11.75	9.00	2	08.0	3.50	5	09.5	May 28.			7.00	4	09.25
8.20	1	10.5	2.30	7	00.5	9.10	2	07.5	4.00	5	09.0				7.30	4	04.5
8.30	1	10.25	2.40	7	01.25	9.20	2	07.5	4.30	5	05.33	0.00	3	03.33	8.00	3	10.0
8.40	1	10.2	2.50	7	01.5	9.30	2	07.5	5.00	5	02.25	0.30	3	10.0	8.30	3	05.0
8.50	1	10.1	3.00	7	01.5	9.40	2	07.25	5.30	4	09.0	1.00	4	04.75	9.00	3	01.0
9.00	1	10.5	3.10	7	01.5	9.50	2	08.0	6.00	4	03.33	1.30	4	11.0	9.10	2	11.75
9.10	1	11.25	3.20	7	01.5	10.00	2	08.75	6.30	3	09.0	2.00	5	05.5	9.20	2	10.75
9.20	2	00.0	3.30	7	01.25	10.30	2	11.5	7.00	3	03.33	2.30	5	10.75	9.30	2	10.0
9.30	2	01.0	3.40	7	00.25	11.00	3	03.25	7.30	2	09.33	3.00	6	03.0	9.40	2	09.5
9.40	2	02.25	3.50	6	11.5	11.30	3	08.0	8.00	2	04.8	3.10	6	04.0	9.50	2	09.0
9.50	2	03.5	4.00	6	10.0	12.00	4	00.25	8.30	2	01.5	3.20	6	04.5	10.00	2	08.5
10.00	2	05.2	4.30	6	06.0	12.30	4	05.33	9.00	2	00.0	3.30	6	05.5	10.10	2	08.25
10.30	2	09.8	5.00	6	02.0	1.00	4	09.66	9.10	1	11.5	3.40	6	06.0	10.20	2	08.75
11.00	3	05.5	5.30	5	07.75	1.30	5	01.33	9.20	1	11.25	3.50	6	06.25	10.30	2	08.25
11.30	4	00.66	6.00	5	01.0	2.00	5	05.0	9.30	1	11.0	4.00	6	06.5	10.40	2	08.25
			6.30	4	06.5	2.20	5	07.33	9.40	1	11.25	4.10	6	06.5	10.50	2	08.25
May 27.			7.00	3	11.5	2.30	5	08.2	9.50	1	11.66	4.20	6	06.5	11.00	2	08.75
			7.30	3	05.75	2.40	5	08.8	10.00	2	00.0	4.30	6	06.25	11.30	2	10.5
0.00	4	08.0	8.00	3	01.25	2.50	5	10.2	10.10	2	00.75	4.40	6	06.75	12.00	3	01.0
0.30	5	05.5	8.10	2	11.75	3.00	5	10.3	10.20	2	01.5	4.50	6	05.0	12.30	3	04.0
1.00	6	01.0	8.20	2	10.75	3.10	5	10.1	10.30	2	02.5	5.00	6	04.25	1.00	3	08.2
1.30	6	06.0	8.30	2	10.0	3.20	5	10.0	11.00	2	05.75	5.30	6	01.0	1.30	4	00.0

Date.	MAY, 1872.																
Time.	28		Time.	28		Time.	29		Time.	29		Time.	29		Time.	30	
h. m.	Feet.	Inches.	h. m.	Feet.	Inches.	h. m.	Feet.	Inches.	h. m.	Feet.	Inches.	h. m.	Feet.	Inches.	h. m.	Feet.	Inches.
2.00	4	04.25	10.00	2	02.75	4.30	5	11.0	11.10	2	09.5	6.30	4	07.5	1.00	2	10.0
2.30	4	08.0	10.10	2	02.5	4.40	5	11.5	11.20	2	09.25	7.00	4	06.0	1.30	3	01.0
3.00	4	10.75	10.20	2	02.0	4.50	6	00.0	11.30	2	09.0	7.30	4	04.0	2.00	3	04.5
3.10	5	00.0	10.30	2	01.8	5.00	6	00.25	11.40	2	10.0	8.00	4	01.0	2.30	3	08.5
3.20	5	00.8	10.40	2	01.75	5.10	6	00.25	11.50	2	09.0	8.30	3	09.0	3.00	4	00.25
3.30	5	01.5	10.50	2	02.0	5.20	6	00.25	12.00	2	09.0	9.00	3	05.0	3.30	4	05.0
3.40	5	02.0	11.00	2	02.5	5.30	6	00.25	12.30	2	09.5	9.30	3	02.5	4.00	4	09.5
3.50	5	02.33	11.10	2	03.0	5.40	6	00.0	1.00	2	11.33	10.00	3	00.0	4.30	5	01.75
4.00	5	02.5	11.20	2	03.5	5.50	5	11.5	1.30	3	02.75	10.30	2	09.5	5.00	5	05.0
4.10	5	02.66	11.30	2	04.5	6.00	5	11.25	2.00	3	04.8	11.00	2	07.5	5.30	5	07.75
4.20	5	02.5				6.30	5	08.0	2.30	3	08.5	11.10	2	07.33	5.40	5	08.0
4.30	5	02.25	May 29.			7.00	5	04.5	3.00	3	11.75	11.20	2	07.0	5.50	5	08.5
4.40	5	02.0				7.30	5	00.75	3.30	4	02.5	11.30	2	06.8	6.00	5	09.0
4.50	5	01.66	0.00	2	07.0	8.00	4	07.75	4.90	4	05.0	11.40	2	06.7	6.10	5	09.25
5.00	5	01.0	0.30	2	11.0	8.30	4	03.0	4.30	4	08.25	11.50	2	07.0	6.20	5	09.5
5.30	4	11.25	1.00	3	04.25	9.00	3	09.75	4.40	4	08.5				6.30	5	09.5
6.00	4	08.5	1.30	3	09.0	9.30	3	05.75	4.50	4	09.0	May 30.			6.40	5	09.5
6.30	4	04.0	2.00	4	03.25	10.00	3	02.0	5.00	4	09.2				6.50	5	09.5
7.00	3	11.33	2.30	4	08.0	10.10	3	01.0	5.10	4	09.33	0.00	2	07.2	7.00	5	09.25
7.30	3	06.5	3.00	5	01.25	10.20	3	00.25	5.20	4	09.66	0.10	2	07.2	7.10	5	09.0
8.00	3	02.0	3.30	5	05.0	10.30	2	11.5	5.30	4	09.66	0.20	2	07.5	7.20	5	08.5
8.30	2	10.0	4.00	5	08.5	10.40	2	10.75	5.40	4	09.5	0.30	2	07.75	7.30	5	07.75
9.00	2	06.25	4.10	5	09.75	10.50	2	10.0	5.50	4	09.25	0.40	2	08.5	8.00	5	05.0
9.30	2	04.0	4.20	5	10.25	11.00	2	09.5	6.00	4	09.0	0.50	2	09.0	8.30	5	01.0

Date.	MAY, 1872.											JUNE, 1872.					
Time.	30		Time.	30		Time.	31		Time.	31		Time.	1		Time.	1	
h. m.	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*
9.00	4	09.0	4.00	3	07.0	Noon.	3	01.5	Noon.	3	05.5	0.00	3	10.75	Noon.	4	00.75
9.30	4	04.5	4.30	3	10.5	0.30	2	10.75	0.30	3	02.25	0.30	3	06.6	0.30	3	06.0
10.00	4	00.0	5.00	4	01.5	1.00	2	10.0	1.00	2	11.75	1.00	3	03.6	1.00	3	03.0
10.30	3	07.5	5.30	4	05.5	1.30	2	09.5	1.30	2	10.0	1.30	3	01.0	1.30	3	00.0
11.00	3	04.5	6.00	4	07.75	2.00	2	10.0	2.00	2	09.0	2.00	2	11.75	2.00	2	08.33
11.30	3	00.75	6.10	4	09.0	2.30	3	00.75	2.30	2	09.0	2.30	2	11.0	2.30	2	06.25
11.40	3	00.0	6.20	4	10.0	3.00	3	04.5	3.00	2	09.5	3.00	2	11.0	3.00	2	05.33
11.50	2	11.0	6.30	4	10.5	3.30	3	08.5	3.30	2	11.5	3.30	3	01.75	3.30	2	05.5
12.00	2	10.3	6.40	4	11.0	4.00	4	00.5	4.00	3	02.0	4.00	3	05.5	4.00	2	06.5
12.10	2	09.6	6.50	4	11.5	4.30	4	01.0	4.30	3	05.5	4.30	3	10.25	4.30	2	09.5
12.20	2	09.3	7.00	4	11.75	5.00	4	10.5	5.00	3	09.5	5.00	4	03.0	5.00	3	01.0
12.30	2	09.0	7.10	5	00.3	5.30	5	03.25	5.30	4	01.25	5.30	4	08.0	5.30	3	06.33
12.40	2	08.5	7.20	5	00.5	6.00	5	07.0	6.00	4	05.5	6.00	5	01.0	6.00	3	10.0
12.50	2	08.3	7.30	5	00.75	6.30	5	10.0	6.30	4	09.6	6.30	5	05.5	6.30	4	03.33
1.00	2	08.2	7.40	5	00.0	7.00	5	11.75	7.00	5	00.75	7.00	5	09.0	7.00	4	08.75
1.10	2	08.5	7.50	4	11.5	7.30	6	00.75	7.30	5	03.5	7.30	5	11.5	7.30	5	01.75
1.20	2	08.75	8.00	4	09.0	8.00	6	00.0	8.00	5	04.8	8.00	6	01.0	8.00	5	06.0
1.30	2	09.25	8.30	4	07.25	8.30	5	09.75	8.30	5	05.25	8.30	6	01.0	8.30	5	09.0
1.40	2	10.0	9.00	4	04.0	9.00	5	06.5	9.00	5	05.0	9.00	6	00.0	9.00	5	10.33
1.50	2	11.8	9.30	4	00.25	9.30	5	02.75	9.30	5	04.0	9.30	5	10.0	9.30	5	11.0
2.00	3	00.0	10.00	3	09.0	10.00	4	10.5	10.00	5	01.0	10.00	5	07.0	10.00	5	10.5
2.30	3	01.0	10.30	3	07.2	10.30	4	04.0	10.30	4	09.5	10.30	5	03.0	10.30	5	07.5
3.00	3	02.5	11.00	3	05.5	11.00	4	01.5	11.00	4	05.4	11.00	4	11.0	11.00	5	05.0
3.30	3	05.0	11.30	3	03.0	11.30	3	09.0	11.30	4	02.5	11.30	4	05.75	11.30	5	00.0

Date.	JUNE, 1872.													
Time.	2		Time.	2		Time.	3		Time.	3		Time.	4	
h. m.	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*
0.00	4	09.0	Noon.	5	05.0	0.00	5	10.0	Noon.	5	08.75	0.00	6	07.25
0.30	4	01.75	0.30	4	05.33	0.30	5	05.5	0.30	5	03.5	0.30	6	03.5
1.00	3	10.0	1.00	4	00.0	1.00	4	11.75	1.00	4	08.0	1.00	5	09.0
1.30	3	06.00	1.30	3	06.5	1.30	4	04.0	1.30	4	00.5	1.30	5	04.0
2.00	3	03.25	2.00	3	01.0	2.00	4	00.0	2.00	3	07.0	2.00	4	09.0
2.30	3	01.75	2.30	2	09.33	2.30	3	07.0	2.30	2	09.0	2.30	4	00.5
3.00	2	11.25	3.00	2	06.0	3.00	3	03.0	3.00	2	05.5	3.00	3	09.25
3.30	2	11.0	3.30	2	05.33	3.30	3	00.25	3.30	2	02.33	3.30	3	03.0
4.00	2	10.5	4.00	2	03.75	4.00	2	10.75	4.00	2	00.0	4.00	3	00.5
4.30	3	01.0	4.30	2	04.0	4.30	2	10.5	4.30	2	00.0	4.30	2	09.75
5.00	3	05.5	5.00	2	05.75	5.00	2	11.75	5.00	2	00.33	5.00	2	09.0
5.30	3	09.25	5.30	2	09.75	5.30	3	02.5	5.30	2	01.5	5.30	2	10.5
6.00	4	02.0	6.00	3	01.0	6.00	3	06.25	6.00	2	05.0	6.00	3	00.0
6.30	4	07.75	6.30	3	07.33	6.30	3	11.25	6.30	2	09.0	6.30	3	03.0
7.00	5	00.75	7.00	4	00.0	7.00	4	05.25	7.00	3	03.0	7.00	3	08.75
7.30	5	05.5	7.30	4	06.33	7.30	4	11.0	7.30	3	10.75	7.30	4	03.5
8.00	5	09.25	8.00	5	00.0	8.00	5	04.0	8.00	4	05.5	8.00	4	08.0
8.30	6	00.0	8.30	5	05.5	8.30	5	09.5	8.30	4	11.75	8.30	5	02.25
9.00	6	02.0	9.00	5	10.0	9.00	6	01.0	9.00	5	07.0	9.00	5	06.5
9.30	6	02.5	9.30	6	02.0	9.30	6	03.0	9.30	6	07.0	9.30	5	10.5
10.00	6	02.5	10.00	6	04.0	10.00	6	05.33	10.00	6	08.0	10.00	6	02.0
10.30	6	01.0	10.30	6	05.0	10.30	6	05.75	10.30	6	07.5	10.30	6	05.75
11.00	5	10.0	11.00	6	04.33	11.00	6	03.0	11.00	6	08.75	11.00	6	05.5
11.30	5	06.0	11.30	6	02.5	11.30	6	00.0	11.30	6	08.33	11.30	6	04.0

Date.	JUNE, 1872.													
Time.	4		Time.	5		Time.	5		Time.	6		Time.	6	
h. m.	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*	*h. m.*	*Feet.*	*Inches.*
Noon.	6	02.0	0.00	7	01.75	Noon.	6	06.5	0.00	7	04.0	Noon.	6	08.0
0.30	5	10.5	0.30	6	11.5	0.30	6	05.0	0.30	7	04.0	0.30	6	08.0
1.00	5	05.5	1.00	6	06.5	1.00	6	02.0	1.00	7	03.0	1.00	6	06.0
1.30	4	10.5	1.30	6	00.5	1.30	5	08.5	1.30	6	11.0	1.30	6	02.0
2.00	4	03.5	2.00	5	07.25	2.00	5	02.0	2.00	6	05.0	2.00	5	09.0
2.30	......	....	2.30	4	10.75	2.30	4	07.0	2.30	5	10.5	2.30	5	02.5
3.00	......	....	3.00	4	05.5	3.00	4	00.0	3.00	5	03.0	3.00	4	07.25
3.30	......	....	3.30	3	09.5	3.30	3	05.0	3.30	4	07.0	3.30	4	00.25
4.00	......	....	4.00	3	05.5	4.00	2	10.5	4.00	4	00.5	4.00	3	05.5
4.30	......	....	4.30	3	00.25	4.30	2	04.75	4.30	3	07.0	4.30	2	11.5
5.00	1	11.5	5.00	2	10.5	5.00	2	02.0	5.00	3	02.75	5.00	2	07.5
5.30	1	11.0	5.30	2	09.5	5.30	2	00.5	5.30	3	00.0	5.30	2	03.5
6.00	2	00.5	6.00	2	09.75	6.00	2	00.25	6.00	2	11.0	6.00	2	01.25
6.30	2	03.5	6.30	3	00.0	6.30	2	02.75	6.30	2	11.0	6.30	2	01.0
7.00	2	08.0	7.00	3	04.0	7.00	2	05.0	7.00	3	01.5	7.00	2	02.5
7.30	3	03.0	7.30	3	08.5	7.30	2	10.5	7.30	3	05.0	7.30	2	06.0
8.00	3	09.75	8.00	4	03.0	8.00	3	05.25	8.00	3	10.0	8.00	2	09.75
8.30	4	05.0	8.30	4	09.0	8.30	3	11.5	8.30	4	03.0	8.30	3	03.75
9.00	5	01.0	9.00	5	03.0	9.00	4	07.0	9.00	4	08.5	9.00	3	10.33
9.30	5	07.5	9.30	5	08.0	9.30	5	04.0	9.30	5	02.5	9.30	4	06.5
10.00	6	03.0	10.00	6	00.75	10.00	5	09.0	10.00	5	08.0	10.00	5	02.33
10.30	6	08.0	10.30	6	03.75	10.30	6	03.5	10.30	6	01.0	10.30	5	10.5
11.00	6	11.0	11.00	6	03.0	11.00	6	09.0	11.00	6	05.25	11.00	6	05.5
11.30	7	01.0	11.30	6	05.5	11.30	7	01.0	11.30	6	07.5	11.30	6	11.33

DETERMINATION OF THE HALF-TIDE LEVEL.

The half-tide level,* which undergoes smaller fluctuations than either the mean high-water or mean low-water level, and to which all heights should be referred, was determined by the following method, in use at the United States Coast Survey Office:

We first tabulated all the heights of the high water and low water in order of their occurrence and placed them in the third column of the appended table. Then the mean reading of two successive high waters was placed in the fourth column, opposite the intermediate low water, and the mean reading of two successive low waters was placed opposite the intermediate high water in the sixth column. The mean between two successive readings in the fourth and sixth columns, respectively, was then again taken and placed in the fifth and the seventh columns, respectively, opposite the intermediate high water or low water. In this manner two mean values were obtained on each horizontal line, the mean of which constitute one half-tide level in column eight. By this process the diurnal and semi-diurnal inequality are nearly eliminated, and the sectional area of water above the half-tide level at high water will, on the average, correspond to an equal sectional area of water below the half-tide level at low water.

An inquiry into the reading of the half-tide level is especially important for the determination of the effect of both wind and atmospheric pressure, and also for the study of the effect of changes in the moon's and sun's declination, as may be seen from some of the following paragraphs. Furthermore, the zero-point of the scale of the tide-gauge may undergo changes, in which case the half-tide level readings will furnish a certain test on this point. The table made out in the manner above stated runs as follows:

Table showing the determination of the half-tide level for the whole series of observations, from November, 1871, to June, 1872.

Date.	Phase.	Reading.	Means.		Means.		Half-tide level.	Date.	Phase.	Reading.	Means.		Means.		Half-tide level.
1871.		Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	1871.		Feet.	Feet.	Feet.	Feet.	Feet.	Feet.
Nov. 6	H.	4.79	......	......	......	......	......	Nov. 15	H.	5.83	......	6.24	0.75	......	3.49
6	L.	2.75	4.75	......	......	......	......	15	L.	0.33	2.60	......	......	0.81	3.51
6	H.	4.71	......	4.47	2.69	......	3.58	15	H.	6.58	......	6.16	0.87	......	3.52
7	L.	2.63	4.19	......	......	2.61	3.40	15	L.	1.42	6.12	......	......	0.98	3.55
7	H.	3.67	......	4.20	2.52	......	3.36	16	H.	5.67	......	6.17	1.08	......	3.62
7	L.	2.42	4.21	......	......	2.39	3.30	16	L.	0.75	6.21	......	......	1.31	3.76
7	H.	4.75	......	4.37	2.25	......	3.31	16	H.	6.75	......	6.20	1.54	......	3.87
8	L.	2.08	4.54	......	......	2.27	3.40	16	L.	2.33	6.19	......	......	1.68	3.94
8	H.	4.33	......	4.59	2.29	......	3.44	17	H.	5.63	......	6.04	1.83	......	3.94
8	L.	2.50	4.64	......	......	2.24	3.44	17	L.	1.33	5.90	......	......	1.89	3.89
8	H.	4.96	......	4.85	2.19	......	3.52	17	H.	6.17	......	5.72	1.95	......	3.84
9	L.	1.88	5.06	......	......	2.03	3.55	17	L.	2.58	5.54	......	......	2.12	3.83
9	H.	5.17	......	5.18	1.88	......	3.53	18	H.	4.92	......	5.48	2.29	......	3.88
9	L.	1.88	5.29	......	......	1.66	3.48	18	L.	2.00	5.42	......	......	2.36	3.89
9	H.	5.42	......	5.31	1.44	......	3.38	18	H.	5.92	......	5.33	2.44	......	3.89
10	L.	1.00	5.33	......	......	1.30	3.32	18	L.	2.88	5.25	......	......	2.57	3.91
10	H.	5.25	......	5.35	1.16	......	3.26	19	H.	4.58	......	5.19	2.71	......	3.95
10	L.	1.33	5.36	......	......	1.06	3.21	19	L.	2.54	5.12	......	......	2.78	3.95
10	H.	5.48	......	5.47	0.95	......	3.21	19	H.	5.67	......	5.14	2.85	......	3.99
11	L.	0.58	5.57	......	......	1.21	3.39	20	L.	3.17	5.15	......	......	2.84	3.99
11	H.	5.67	......	5.64	1.47	......	3.56	20	H.	4.63	......	5.02	2.83	......	3.93
11	L.	2.37	5.71	......	......	1.33	3.52	20	L.	2.50	4.90	......	......	2.64	3.77
11	H.	5.75	......	5.88	1.18	......	3.53	20	H.	5.17	......	......	2.44	......	......
12	L.	0.00	6.05	......	......	0.87	3.46	21	L.	2.38	......	......	......	......	......
12	H.	6.35	......	6.18	0.56	......	3.37	Dec. 3	H.	5.29	......	......	......	......	......
12	L.	1.13	6.32	......	......	0.63	3.47	3	L.	2.92	5.75	......	......	......	......
13	H.	6.29	......	6.46	0.69	......	3.57	3	H.	6.21	......	5.84	3.44	......	4.64
13	L.	0.25	6.60	......	......	0.74	3.67	3	L.	3.96	5.94	......	......	3.66	4.80
13	H.	6.92	......	6.59	0.79	......	3.69	4	H.	5.67	......	6.12	3.87	......	4.99
13	L.	1.33	6.58	......	......	0.79	3.69	4	L.	3.79	6.29	......	......	4.05	5.17
14	H.	6.25	......	6.53	0.79	......	3.66	4	H.	6.92	......	6.38	4.23	......	5.30
14	L.	0.25	6.48	......	......	0.75	3.61	4	L.	4.67	6.46	......	......	4.36	5.41
14	H.	6.71	......	6.37	0.71	......	3.54	5	H.	6.00	......	6.42	4.50	......	5.46
14	L.	1.17	6.27	......	......	0.73	3.50	5	L.	4.33	6.38	......	......	4.34	5.36

* The half-tide level being derived from the means of mean values is usually and properly enough called the mean level, but as this latter term is also used otherwise, we prefer the term half-tide level to avoid any misconception of the term mean level. In the following discussions it will always be referred to as the half-tide level, while the mean of two or more levels will be called the mean level simply.

Table showing the determination of the half-tide level, &c.—Continued.

Date.		Phase.	Reading.	Means.		Means.		Half-tide level.
1871.			*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*
Dec.	5	H.	6.77	......	6.51	4.18	......	5.35
	6	L.	4.04	6.63	......	......	4.06	5.35
	6	H.	5.50	......	6.19	3.93	......	5.06
	6	L.	3.83	5.75	......	......	3.71	4.73
	6	H.	6.00	......	5.75	3.48	......	4.61
	7	L.	3.13	5.75	......	......	3.44	4.59
	7	H.	5.50	......	5.81	3.40	......	4.60
	7	L.	3.67	5.87	......	......	3.34	4.60
	7	H.	6.25	......	6.06	3.27	......	4.67
	8	L.	2.88	6.25	......	......	3.27	4.76
	8	H.	6.25	......	6.43	3.27	......	4.85
	8	L.	3.67	6.60	......	......	3.15	4.88
	8	H.	6.96	......	6.90	3.02	......	4.96
	9	L.	2.38	7.19	......	......	3.04	5.11
	9	H.	7.42	......	7.32	3.06	......	5.19
	9	L.	3.75	7.46	......	......	3.14	5.30
	9	H.	7.50	......	7.60	3.21	......	5.41
	10	L.	2.67	7.75	......	......	3.21	5.48
	10	H.	8.00	......	7.79	3.21	......	5.50
	10	L.	3.75	7.83	......	......	3.12	5.48
	10	H.	7.67	......	7.97	3.04	......	5.55
	11	L.	2.33	8.10	......	......	3.01	5.56
	11	H.	8.54	......	8.21	2.98	......	5.59
	11	L.	3.63	8.31	......	......	2.95	5.63
	12	H.	8.08	......	8.39	2.92	......	5.65
	12	L.	2.21	8.46	......	......	2.92	5.69
	12	H.	8.85	......	8.48	2.92	......	5.70
	12	L.	3.63	8.49	......	......	2.99	5.74
	13	H.	8.13	......	8.57	3.06	......	5.82
	13	L.	2.50	8.65	......	......	3.07	5.86
	13	H.	9.17	......	8.74	3.08	......	5.91
	13	L.	3.67	8.83	......	......	3.04	5.94
	14	H.	8.50	......	8.72	3.00	......	5.86
	14	L.	2.33	8.60	......	......	2.94	5.77
	14	H.	8.71	......	8.43	2.87	......	5.65
	14	L.	3.42	8.25	......	......	2.96	5.60
	15	H.	7.79	......	8.28	3.04	......	5.66
	15	L.	2.67	8.31	......	......	3.08	5.70
	15	H.	8.83	......	8.10	3.12	......	5.61
	15	L.	3.58	7.89	......	......	3.04	5.47
	16	H.	6.96	......	7.50	2.95	......	5.23
	16	L.	2.33	7.10	......	......	2.74	4.92
	16	H.	7.25	......	6.83	2.52	......	4.68
	16	L.	2.71	6.56	......	......	2.50	4.53
	17	H.	5.88	......	6.39	2.49	......	4.44
	17	L.	2.17	6.21	......	......	2.52	4.36
	17	H.	6.55	......	6.11	2.54	......	4.33
	17	L.	2.92	6.60	......	......	2.75	4.38
	18	H.	5.46	......	6.01	2.96	......	4.48
	18	L.	3.00	6.02	......	......	3.10	4.56
	18	H.	6.58	......	6.09	3.25	......	4.67
	19	L.	3.50	6.16	......	......	3.51	4.84
	19	H.	5.75	......	6.27	3.77	......	5.02
	19	L.	4.04	6.37	......	......	3.86	5.12
	19	H.	7.00	......	6.44	3.96	......	5.20
	20	L.	3.88	6.50	......	......	4.03	5.26
	20	H.	6.00	......	6.43	4.10	......	5.26
	20	L.	4.33	6.35	......	......	4.13	5.24
	20	H.	6.71	......	6.42	4.16	......	5.29
	21	L.	4.00	6.48	......	......	4.15	5.32
	21	H.	6.25	......	6.46	4.14	......	5.30
	21	L.	4.29	6.44	......	......	4.00	5.22
	21	H.	6.63	......	6.53	3.85	......	5.19
	22	L.	3.42	6.63	......	......	3.80	5.21
	22	H.	6.63	......	6.62	3.75	......	5.18
	22	L.	4.08	6.60	......	......	3.74	5.17
	22	H.	6.58	......	6.62	3.73	......	5.18
	23	L.	3.38	6.64	......	......	3.74	5.19
	23	H.	6.71	......	6.75	3.75	......	5.25
	23	L.	4.13	6.85	......	......	3.76	5.31

Date.		Phase.	Reading.	Means.		Means.		Half-tide level.
1871.			*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*
Dec.	23	H.	7.00	......	7.03	3.77	......	5.40
	24	L.	3.42	7.21	......	......	3.72	5.46
	24	H.	7.42	......	7.18	3.67	......	5.42
	24	L.	3.92	7.15	......	......	3.58	5.37
	24	H.	6.88	......	7.22	3.50	......	5.36
	25	L.	3.08	7.29	......	......	3.46	5.37
	25	H.	7.71	......	7.38	3.41	......	5.39
	25	L.	3.75	7.46	......	......	3.39	5.43
	26	H.	7.21	......	7.45	3.37	......	5.41
	26	L.	3.00	7.44	......	......	3.37	5.41
	26	H.	7.67	......	7.43	3.37	......	5.40
	26	L.	3.75	7.42	......	......	3.36	5.39
	27	H.	7.17	......	7.41	3.35	......	5.38
	27	L.	2.96	7.40	......	......	3.31	5.35
	27	H.	7.63	......	7.31	3.27	......	5.29
	27	L.	3.58	7.23	......	......	3.19	5.21
	28	H.	6.83	......	7.26	3.10	......	5.18
	28	L.	2.63	7.29	......	......	3.12	5.20
	28	H.	7.75	......	7.27	3.13	......	5.20
	28	L.	3.63	7.25	......	......	3.11	5.18
	29	H.	6.75	......	7.26	3.08	......	5.17
	29	L.	2.54	7.27	......	......	3.11	5.19
	29	H.	7.79	......	7.28	3.14	......	5.21
	29	L.	3.75	7.29	......	......	3.21	5.25
	30	H.	6.79	......	7.24	3.27	......	5.25
	30	L.	2.79	7.18	......	......	3.23	5.20
	30	H.	7.58	......	7.14	3.18	......	5.16
	30	L.	3.58	7.10	......	......	3.21	5.15
	31	H.	6.63	......	7.07	3.23	......	5.15
	31	L.	2.88	7.04	......	......	3.23	5.14
	31	H.	7.46	......	7.01	3.23	......	5.12
	31	L.	3.58	6.98	......	......	3.29	5.13
1872.								
Jan.	1	H.	6.50	......	6.95	3.35	......	5.15
	1	L.	3.13	6.91	......	......	3.40	5.15
	1	H.	7.33	......	6.89	3.44	......	5.20
	1	L.	3.75	6.87	......	......	3.55	5.21
	2	H.	6.42	......	6.82	3.66	......	5.24
	2	L.	3.58	6.77	......	......	3.70	5.23
	2	H.	7.13	......	6.72	3.73	......	5.23
	2	L.	3.88	6.67	......	......	3.80	5.24
	3	H.	6.22	......	6.58	3.88	......	5.23
	3	L.	3.88	6.49	......	......	3.82	5.16
	3	H.	6.77	......	6.47	3.76	......	5.11
	3	L.	3.64	6.45	......	......	3.87	5.16
	4	H.	6.13	......	6.44	3.97	......	5.21
	4	L.	4.31	6.44	......	......	3.98	5.21
	4	H.	6.75	......	6.44	3.99	......	5.21
	5	L.	3.67	6.44	......	......	3.96	5.20
	5	H.	6.13	......	6.37	3.94	......	5.16
	5	L.	4.21	6.31	......	......	3.87	5.09
	5	H.	6.50	......	6.36	3.80	......	5.08
	6	L.	3.39	6.40	......	......	3.82	5.11
	6	H.	6.31	......	6.45	3.84	......	5.14
	6	L.	4.29	6.49	......	......	3.73	5.11
	6	H.	6.67	......	6.57	3.63	......	5.10
	7	L.	2.97	6.65	......	......	3.55	5.10
	7	H.	6.63	......	6.66	3.46	......	5.06
	7	L.	3.96	6.68	......	......	3.40	5.04
	7	H.	6.73	......	6.93	3.34	......	5.14
	8	L.	2.73	7.19	......	......	3.32	5.26
	8	H.	7.65	......	7.29	3.30	......	5.30
	8	L.	3.88	7.39	......	......	3.24	5.31
	8	H.	7.13	......	7.75	3.17	......	5.46
	9	L.	2.46	8.10	......	......	3.12	5.61
	9	H.	9.08	......	8.21	3.06	......	5.64
	9	L.	3.67	8.32	......	......	3.07	5.69
	10	H.	7.56	......	8.19	3.07	......	5.63
	10	L.	2.47	8.06	......	......	3.02	5.54
	10	H.	8.56	......	8.10	2.96	......	5.53

Table showing the determination of the half-tide level, &c.—Continued.

Date.	Phase.	Reading.	Means.		Means.		Half-tide level.	Date.	Phase.	Reading.	Means.		Means.		Half-tide level.
1872.		*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	1872.		*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*
Jan. 10	L.	3.46	8.13	......	......	2.88	5.51	Jan. 28	L.	2.67	7.16	......	......	2.50	4.83
11	H.	7.71	......	8.19	2.79	......	5.49	29	H.	6.90	......	7.30	2.62	......	4.96
11	L.	2.13	8.24	......	......	2.68	5.46	29	L.	2.58	7.45	......	......	2.76	5.10
11	H.	8.77	......	8.23	2.56	......	5.40	29	H.	8.00	......	7.54	2.89	......	5.21
11	L.	3.00	8.22	......	......	2.51	5.36	29	L.	3.21	7.62	......	......	3.05	5.34
12	H.	7.67	......	8.15	2.46	......	5.30	30	H.	7.25	......	7.60	3.21	......	5.40
12	L.	1.92	8.08	......	......	2.42	5.25	30	L.	3.21	7.58	......	......	3.24	5.41
12	H.	8.50	......	7.96	2.38	......	5.17	30	H.	7.92	......	7.51	3.27	......	5.39
12	L.	2.85	7.83	......	......	2.36	5.10	30	L.	3.33	7.44	......	......	3.30	5.37
13	H.	7.17	......	7.80	2.34	......	5.07	31	H.	6.96	......	7.25	3.33	......	5.29
13	L.	1.83	7.77	......	......	2.31	5.04	31	L.	3.33	7.06	......	......	3.27	5.17
13	H.	8.38	......	7.84	2.29	......	5.06	31	H.	7.17	......	6.93	3.21	......	5.07
13	L.	2.75	7.90	......	......	2.38	5.14	31	L.	3.10	6.79	......	......	3.21	5.00
14	H.	7.42	......	7.85	2.48	......	5.16	Feb. 1	H.	6.42	......	6.67	3.20	......	4.94
14	L.	2.21	7.79	......	......	2.54	5.17	1	L.	3.31	6.54	......	......	3.18	4.86
14	H.	8.17	......	7.69	2.60	......	5.15	1	H.	6.67	......	6.51	3.15	......	4.83
14	L.	3.00	7.58	......	......	2.71	5.15	1	L.	*3.00	6.48	......	......	3.27	4.88
15	H.	7.00	......	7.47	2.82	......	5.15	2	H.	*6.30	......	6.45	3.39	......	4.92
15	L.	2.65	7.36	......	......	2.80	5.08	2	L.	*3.79	6.42	......	......	3.46	4.94
15	H.	7.73	......	7.22	2.78	......	5.00	2	H.	6.54	......	6.43	3.52	......	4.97
15	L.	2.92	7.07	......	......	2.83	4.95	3	L.	3.25	6.43	......	......	3.71	5.07
16	H.	6.42	......	6.85	2.87	......	4.86	3	H.	6.33	......	6.43	3.90	......	5.16
16	L.	2.83	6.62	......	......	2.87	4.75	3	L.	4.55	6.42	......	......	4.00	5.21
16	H.	6.83	......	6.48	2.87	......	4.67	3	H.	6.52	......	6.45	4.10	......	5.27
16	L.	2.92	6.33	......	......	3.00	4.66	4	L.	3.65	6.47	......	......	4.13	5.30
17	H.	5.83	......	6.17	3.12	......	4.65	4	H.	6.42	......	6.46	4.16	......	5.31
17	L.	3.35	6.02	......	......	3.12	4.57	4	L.	4.67	6.46	......	......	4.08	5.27
17	H.	6.21	......	5.87	3.11	......	4.49	4	H.	6.50	......	6.48	4.00	......	5.24
18	L.	2.88	5.73	......	......	3.13	4.43	5	L.	3.33	6.50	......	......	3.91	5.20
18	H.	5.25	......	5.55	3.15	......	4.35	5	H.	6.50	......	6.46	3.82	......	5.14
18	L.	3.42	5.36	......	......	3.15	4.26	5	L.	4.31	6.41	......	......	3.72	5.07
18	H.	5.48	......	5.29	3.15	......	4.22	5	H.	6.33	......	6.53	3.63	......	5.08
19	L.	2.88	5.22	......	......	3.23	4.23	6	L.	2.96	6.64	......	......	3.46	5.05
19	H.	4.96	......	5.21	3.31	......	4.26	6	H.	6.96	......	6.64	3.31	......	4.98
19	L.	3.75	5.21	......	......	3.40	4.30	6	L.	3.67	6.63	......	......	3.19	4.91
19	H.	5.46	......	5.41	3.48	......	4.44	6	H.	6.31	......	6.77	3.06	......	4.92
20	L.	3.21	5.60	......	......	3.57	4.59	7	L.	2.46	6.90	......	......	2.97	4.94
20	H.	5.75	......	5.67	3.67	......	4.67	7	H.	7.50	......	7.08	2.87	......	4.97
20	L.	4.13	5.73	......	......	3.73	4.73	7	L.	3.29	7.25	......	......	2.84	5.04
20	H.	5.71	......	5.87	3.79	......	4.83	7	H.	7.00	......	7.32	2.80	......	5.06
21	L.	3.45	6.02	......	......	3.79	4.90	8	L.	2.31	7.39	......	......	2.68	5.04
21	H.	6.33	......	6.12	3.79	......	4.96	8	H.	7.79	......	7.48	2.56	......	5.02
21	L.	4.13	6.23	......	......	3.81	5.02	8	L.	2.81	7.57	......	......	2.56	5.06
21	H.	6.13	......	6.46	3.84	......	5.15	9	H.	7.35	......	7.77	2.56	......	5.16
22	L.	3.55	6.70	......	......	3.93	5.31	9	L.	2.31	7.96	......	......	2.48	5.22
22	H.	7.27	......	6.82	4.02	......	5.42	9	H.	8.58	......	7.80	2.40	......	5.10
22	L.	4.50	6.93	......	......	3.98	5.46	9	L.	2.50	8.14	......	......	2.33	5.23
22	H.	6.60	......	7.05	3.94	......	5.49	10	H.	7.71	......	8.19	2.25	......	5.22
23	L.	3.38	7.16	......	......	3.80	5.48	10	L.	2.00	8.23	......	......	2.31	5.27
23	H.	7.73	......	7.18	3.67	......	5.42	10	H.	8.75	......	8.22	2.36	......	5.29
23	L.	3.96	7.20	......	......	3.65	5.32	10	L.	2.73	8.21	......	......	2.32	5.26
24	H.	6.67	......	7.29	3.63	......	5.46	11	H.	7.67	......	8.15	2.28	......	5.21
24	L.	3.29	7.38	......	......	3.70	5.54	11	L.	1.83	8.08	......	......	2.22	5.15
24	H.	8.10	......	7.59	3.77	......	5.68	11	H.	8.50	......	8.08	2.16	......	5.12
24	L.	4.25	7.80	......	......	3.85	5.83	11	L.	2.50	8.07	......	......	2.23	5.15
25	H.	7.50	......	7.88	3.94	......	5.91	12	H.	7.65	......	7.97	2.29	......	5.13
25	L.	3.63	7.96	......	......	3.88	5.92	12	L.	2.08	7.86	......	......	2.25	5.05
25	H.	8.42	......	7.95	3.81	......	5.88	12	H.	8.08	......	7.73	2.20	......	4.97
25	L.	4.00	7.94	......	......	3.66	5.80	12	L.	2.33	7.60	......	......	2.23	4.91
26	H.	7.46	......	7.85	3.51	......	5.68	13	H.	7.13	......	7.46	2.25	......	4.85
26	L.	3.02	7.77	......	......	3.39	5.58	13	L.	2.17	7.31	......	......	2.31	4.81
26	H.	8.08	......	7.64	3.28	......	5.45	13	H.	7.50	......	7.17	2.36	......	4.76
26	L.	3.54	7.52	......	......	3.09	5.31	13	L.	2.56	7.02	......	......	2.44	4.73
27	H.	6.96	......	7.41	2.91	......	5.16	14	H.	6.54	......	6.86	2.51	......	4.69
27	L.	2.28	7.29	......	......	2.73	5.01	14	L.	2.46	6.71	......	......	2.52	4.61
27	H.	7.63	......	7.23	2.55	......	4.89	14	H.	6.88	......	6.61	2.53	......	4.57
27	L.	2.83	7.16	......	......	2.50	4.83	14	L.	2.61	6.50	......	......	2.75	4.62
28	H.	6.69	......	7.11	2.45	......	4.78	15	H.	6.13	......	6.49	2.96	......	4.72
28	L.	2.08	7.05	......	......	2.41	4.73	15	L.	3.31	6.48	......	......	3.13	4.81
28	H.	7.42	......	7.11	2.37	......	4.74	15	H.	6.83	......	6.42	3.31	......	4.86

* Interpolated.

Table showing the determination of the half-tide level, &c.—Continued.

Date.		Phase.	Reading.	Means.		Means.		Half-tide level.
1872.			*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*
Feb.	15	L.	3.31	6.36				4.83
	16	H.	5.89		6.12	3.54		4.83
	16	L.	3.77	5.88			3.58	4.73
	16	H.	5.88		5.84	3.61		4.73
	16	L.	3.46	5.79			3.85	4.82
	17	H.	5.71		5.95	4.09		5.02
	17	L.	4.72	6.10			4.44	5.27
	17	H.	6.50		6.30	4.80		5.50
	18	L.	4.88	6.50			4.96	5.73
	18	H.	6.50		6.41	5.13		5.77
	18	L.	5.38	6.31			5.01	5.66
	18	H.	6.13		6.25	4.90		5.57
	19	L.	4.42	6.19			4.66	5.43
	19	H.	6.25		6.11	4.43		5.27
	19	L.	4.44	6.04			4.27	5.15
	19	H.	5.83		6.23	4.11		5.17
	20	L.	3.79	6.41			4.11	5.26
	20	H.	7.00		6.52	4.10		5.31
	20	L.	4.42	6.62			4.03	5.33
	20	H.	6.25		6.52	3.96		5.24
	21	L.	3.50	6.44			3.67	5.04
	21	H.	6.58		6.27	3.37		4.82
	21	L.	3.25	6.13			3.10	4.62
	21	H.	5.69		6.16	2.83		4.49
	22	L.	2.42	6.18			2.74	4.46
	22	H.	6.67		6.30	2.65		4.47
	22	L.	2.89	6.42			2.59	4.50
	23	H.	6.17		6.50	2.53		4.51
	23	L.	2.17	6.58			2.48	4.53
	23	H.	7.00		6.62	2.44		4.53
	23	L.	2.71	6.66			2.45	4.56
	24	H.	6.33		6.76	2.46		4.61
	24	L.	2.22	6.85			2.47	4.66
	24	H.	7.38		7.05	2.47		4.76
	24	L.	2.72	7.25			2.61	4.93
	25	H.	7.13		7.55	2.75		5.15
	25	L.	2.79	7.85			2.92	5.39
	25	H.	8.58		7.96	3.08		5.52
	25	L.	3.38	8.06			3.03	5.54
	26	H.	7.54		7.78	2.98		5.38
	26	L.	2.58	7.50			2.63	5.07
	26	H.	7.46		7.28	2.29		4.78
	26	L.	2.00	7.06			2.11	4.58
	27	H.	6.67		6.99	1.92		4.46
	27	L.	1.85	6.92			1.79	4.35
	27	H.	7.17		6.86	1.65		4.25
	27	L.	1.46	6.79			1.64	4.22
	28	H.	6.42		6.71	1.62		4.17
	28	L.	1.79	6.62			1.68	4.15
	28	H.	6.83		6.58	1.73		4.15
	28	L.	1.67	6.54			1.83	4.19
	29	H.	6.25		6.39	1.94		4.17
	29	L.	2.21	6.25			2.07	4.16
	29	H.	6.25			2.21		4.23
	29	L.	2.21					
Mar.	6	L.	2.88					
	6	H.	6.08			3.14		
	6	L.	3.40	5.66			2.92	4.29
	6	H.	5.25		5.73	2.70		4.21
	7	L.	2.00	5.79			2.41	4.10
	7	H.	6.33		5.75	2.12		3.94
	7	L.	2.25	5.70			1.98	3.84
	7	H.	5.08		5.68	1.83		3.76
	8	L.	1.42	5.66			1.65	3.65
	8	H.	6.25		5.90	1.46		3.68
	8	L.	1.50	6.14			1.33	3.74
	9	H.	6.04		6.27	1.21		3.74
	9	L.	0.92	6.39			1.10	3.75
	9	H.	6.75		6.45	1.00		3.72
	9	L.	1.08	6.51			0.79	3.65

Date.		Phase.	Reading.	Means.		Means.		Half-tide level.
1872.			*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*
Mar.	10	H.	6.27		6.64	0.58		3.61
	10	L.	0.08	6.78			0.65	3.72
	10	H.	7.30		6.84	0.73		3.78
	10	L.	1.38	6.90			1.04	3.97
	11	H.	6.50		6.82	1.35		4.09
	11	L.	1.33	6.75			1.35	4.05
	11	H.	7.00		6.87	1.35		4.11
	11	L.	1.38	6.99			1.42	4.20
	12	H.	6.98		7.03	1.48		4.25
	12	L.	1.58	7.07			1.57	4.32
	12	H.	7.17		6.96	1.66		4.31
	12	L.	1.75	6.85			1.77	4.31
	13	H.	6.54		6.76	1.87		4.32
	13	L.	2.00	6.66			1.86	4.26
	13	H.	6.79		6.54	1.85		4.20
	13	L.	1.71	6.41			1.86	4.14
	14	H.	6.04		6.22	1.87		4.04
	14	L.	2.04	6.02			1.95	3.98
	14	H.	6.00		5.93	2.02		3.97
	14	L.	2.00	5.83			2.18	4.00
	15	H.	5.67		5.42	2.33		3.88
	15	L.	2.67	5.01			2.49	3.75
	15	H.	4.35		4.97	2.65		3.81
	15	L.	2.63	4.92			2.86	3.89
	16	H.	5.50		5.17	3.06		4.12
	16	L.	3.50	5.41			3.21	4.31
	16	H.	5.33		5.34	3.35		4.35
	16	L.	3.21	5.27			3.42	4.34
	17	H.	5.21		5.09	3.48		4.29
	17	L.	3.75	4.92			3.50	4.21
	17	H.	4.63		4.76	3.41		4.09
	18	L.	3.08	4.60			3.38	3.99
	18	H.	4.58		4.46	3.35		3.90
	18	L.	3.63	4.31			3.41	3.86
	18	H.	4.04		4.40	3.47		3.94
	19	L.	3.31	4.50			3.50	4.00
	19	H.	4.96		4.63	3.53		4.08
	19	L.	3.75	4.77			3.51	4.14
	19	H.	4.58		4.95	3.50		4.22
	20	L.	3.25	5.12			3.44	4.28
	20	H.	5.67		5.22	3.37		4.30
	20	L.	3.50	5.32			3.20	4.26
	20	H.	4.97		5.23	3.02		4.13
	21	L.	2.54	5.15			2.71	3.93
	21	H.	5.33		5.19	2.39		3.79
	21	L.	2.25	5.23			2.23	3.73
	21	H.	5.13		5.27	2.06		3.67
	22	L.	1.88	5.31			1.95	3.63
	22	H.	5.50		5.39	1.84		3.61
	22	L.	1.81	5.46			1.73	3.59
	23	H.	5.42		5.59	1.61		3.60
	23	L.	1.42	5.73			1.54	3.63
	23	H.	6.04		5.81	1.46		3.63
	23	L.	1.50	5.89			1.39	3.64
	24	H.	5.75		5.95	1.31		3.63
	24	L.	1.13	6.01			1.20	3.61
	24	H.	6.27		6.05	1.09		3.57
	24	L.	1.06	6.09			0.81	3.45
	25	H.	5.92		6.14	0.53		3.33
	25	L.	0.00	6.18			0.43	3.30
	25	H.	6.44		6.32	0.32		3.32
	25	L.	0.65	6.47			0.61	3.54
	26	H.	6.50		6.58	0.89		3.73
	26	L.	1.13	6.69			0.91	3.80
	26	H.	6.88		6.69	0.94		3.81
	26	L.	0.75	6.69			0.92	3.80
	27	H.	6.50		6.61	0.89		3.75
	27	L.	1.04	6.54			0.86	3.70
	27	H.	6.58		6.57	0.83		3.70
	27	L.	0.63	6.60			0.91	3.75

Table showing the determination of the half-tide level, &c.—Continued.

Date.		Phase.	Reading.	Means.		Means.		Half-tide level.
1872.			Feet.	Feet.	Feet.	Feet.	Feet.	Feet.
Mar.	28	H.	6.63		6.60	0.98		3.79
	28	L.	1.33	6.60			1.04	3.82
	28	H.	6.58		6.57	1.10		3.84
	28	L.	0.88	6.54			1.20	3.87
	29	H.	6.50		6.52	1.30		3.91
	29	L.	1.73	6.50			1.38	3.94
	29	H.	6.50		6.44	1.45		3.94
	29	L.	1.17	6.37			1.58	3.98
	30	H.	6.25		6.17	1.71		3.94
	30	L.	2.25	5.96			1.81	3.88
	30	H.	5.67		5.79	1.91		3.85
	30	L.	1.58	5.62			2.02	3.82
	31	H.	5.58		5.46	2.12		3.79
	31	L.	2.67	5.29			2.25	3.77
	31	H.	5.00		5.18	2.37		3.78
	31	L.	2.08	5.07			2.49	3.78
Apr.	1	H.	5.14		4.95	2.60		3.78
	1	L.	3.13	4.83			2.70	3.76
	1	H.	4.54		4.82	2.79		3.81
	2	L.	2.46	4.81			2.83	3.82
	2	H.	5.08		4.79	2.87		3.83
	2	L.	3.29	4.78			2.93	3.85
	2	H.	4.48		4.88	2.98		3.93
	3	L.	2.67	4.99			2.94	3.96
	3	H.	5.50		5.16	2.90		4.03
	3	L.	3.13	5.33			2.86	4.09
	3	H.	5.17		5.51	2.81		4.16
	4	L.	2.50	5.68			2.64	4.16
	4	H.	6.19		5.80	2.46		4.13
	4	L.	2.42	5.93			2.37	4.15
	4	H.	5.67		6.03	2.27		4.15
	5	L.	2.13	6.12			2.17	4.15
	5	H.	6.58		6.28	2.06		4.17
	5	L.	2.00	6.44			1.96	4.20
	5	H.	6.31		6.54	1.85		4.20
	6	L.	1.71	6.64			1.75	4.20
	6	H.	6.97		6.76	1.65		4.20
	6	L.	1.60	6.87			1.63	4.25
	7	H.	6.78		6.95	1.61		4.28
	7	L.	1.63	7.03			1.54	4.29
	7	H.	7.29		7.07	1.46		4.26
	7	L.	1.29	7.10			1.36	4.23
	8	H.	6.92		7.06	1.27		4.17
	8	L.	1.25	7.02			1.19	4.10
	8	H.	7.13		7.02	1.10		4.06
	8	L.	0.96	7.01			1.06	4.04
	9	H.	6.90		6.94	1.02		3.98
	9	L.	1.08	6.86			1.03	3.95
	9	H.	6.83		6.88	1.04		3.96
	9	L.	1.00	6.89			1.14	4.02
	10	H.	6.96		6.86	1.25		4.06
	10	L.	1.50	6.83			1.24	4.04
	10	H.	6.71		6.76	1.23		4.00
	10	L.	0.96	6.67			1.26	3.97
	11	H.	6.64		6.58	1.30		3.94
	11	L.	1.65	6.48			1.39	3.93
	11	H.	6.33		6.42	1.47		3.95
	11	L.	1.29	6.36			1.58	3.97
	12	H.	6.40		6.27	1.70		3.98
	12	L.	2.11	6.18			1.81	4.00
	12	H.	5.96		6.10	1.93		4.01
	12	L.	1.75	6.02			2.05	4.03
	13	H.	6.08		5.94	2.16		4.03
	13	L.	2.58	5.86			2.32	4.09
	13	H.	5.65		5.81	2.48		4.04
	13	L.	2.38	5.75			2.66	4.20
	14	H.	5.85		5.62	2.83		4.23
	14	L.	3.29	5.50			2.91	4.20
	14	H.	5.15		5.35	2.98		4.17
	14	L.	2.67	5.21			3.00	4.10
1872.			Feet.	Feet.	Feet.	Feet.	Feet.	Feet.
Apr.	15	H.	5.27		5.04	3.02		4.03
	15	L.	3.38	4.87			3.02	3.95
	15	H.	4.47		4.72	3.02		3.87
	15	L.	2.67	4.58			3.02	3.80
	16	H.	4.69		4.46	3.01		3.73
	16	L.	3.35	4.34			3.11	3.73
	16	H.	4.00		4.41	3.21		3.81
	17	L.	3.07	4.48			3.20	3.84
	17	H.	4.96		4.51	3.19		3.85
	17	L.	3.31	4.54			3.17	3.86
	17	H.	4.13		4.59	3.15		3.87
	18	L.	3.00	4.63			3.02	3.83
	18	H.	5.13		4.66	2.89		3.78
	18	L.	2.79	4.69			2.69	3.69
	18	H.	4.25		4.66	2.48		3.57
	19	L.	2.17	4.62			2.20	3.41
	19	H.	5.00		4.66	1.93		3.29
	19	L.	1.69	4.69			1.80	3.24
	19	H.	4.38		4.80	1.67		3.24
	20	L.	1.65	4.92			1.66	3.29
	20	H.	5.46		5.18	1.66		3.42
	20	L.	1.67	5.44			1.70	3.57
	20	H.	5.42		5.63	1.75		3.69
	21	L.	1.83	5.81			1.72	3.77
	21	H.	6.21		5.96	1.69		3.83
	21	L.	1.56	6.10			1.63	3.87
	21	H.	6.00		6.23	1.57		3.90
	22	L.	1.58	6.36			1.51	3.94
	22	H.	6.73		6.71	1.45		4.08
	22	L.	1.33	7.05			1.43	4.24
	23	H.	7.38		6.99	1.40		4.19
	23	L.	1.48	6.92			1.23	4.07
	23	H.	6.46		6.72	1.05		3.89
	23	L.	0.63	6.52			0.96	3.74
	24	H.	6.58		6.54	0.86		3.70
	24	L.	1.10	6.56			0.78	3.67
	24	H.	6.54		6.66	0.69		3.67
	24	L.	0.29	6.75			0.71	3.73
	25	H.	6.97		6.71	0.73		3.72
	25	L.	1.17	6.67			0.73	3.70
	25	H.	6.38		6.57	0.74		3.65
	25	L.	0.31	6.46			0.75	3.61
	26	H.	6.54		6.35	0.77		3.56
	26	L.	1.23	6.25			0.77	3.51
	26	H.	5.96		6.18	0.78		3.48
	26	L.	0.33	6.11			0.84	3.47
	27	H.	6.27		6.04	0.89		3.47
	27	L.	1.46	5.97			1.05	3.51
	27	H.	5.67		5.95	1.21		3.58
	27	L.	0.96	5.93			1.15	3.54
	28	H.	6.19		5.84	1.08		3.46
	28	L.	1.21	5.76			1.23	3.49
	28	H.	5.33		5.66	1.37		3.51
	28	L.	1.53	5.56			1.74	3.65
	29	H.	5.79		5.43	2.11		3.77
	29	L.	2.69	5.31			2.25	3.78
	29	H.	4.83		5.18	2.38		3.78
	29	L.	2.08	5.05			2.27	3.66
	30	H.	5.27		4.96	2.16		3.56
	30	L.	2.25	4.86			2.26	3.56
	30	H.	4.46		4.85	2.35		3.60
May	1	L.	2.46	4.83			2.51	3.67
	1	H.	5.21		4.80	2.67		3.73
	1	L.	2.88	4.77			2.70	3.73
	1	H.	4.33		4.85	2.73		3.79
	2	L.	2.58	4.92			2.64	3.78
	2	H.	5.52		5.10	2.56		3.83
	2	L.	2.54	5.28			2.52	3.90
	2	H.	5.05		5.40	2.48		3.94
	3	L.	2.42	5.52			2.40	3.96

Table showing the determination of the half-tide level, &c.—Continued.

Date.	Phase.	Reading.	Means.		Means.		Half-tide level.	Date.	Phase.	Reading.	Means.		Means.		Half-tide level.
1872.		*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	1872.		*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*
May 3	H.	6.00	......	5.71	2.32	......	4.01	May 20	L.	0.92	5.63	......	......	1.32	3.47
3	L.	2.22	5.89	......	......	2.32	4.11	20	H.	5.86	......	5.83	1.33	......	3.58
3	H.	5.78	......	6.00	2.33	......	4.16	21	L.	1.75	6.02	......	......	1.40	3.71
4	L.	2.44	6.11	......	......	2.23	4.17	21	H.	6.19	......	6.32	1.46	......	3.89
4	H.	6.44	......	6.16	2.13	......	4.15	21	L.	1.17	6.61	......	......	1.56	4.09
4	L.	1.83	6.22	......	......	2.01	4.12	22	H.	7.04	......	6.72	1.68	......	4.20
4	H.	6.00	......	6.23	1.89	......	4.06	22	L.	2.19	6.83	......	......	1.65	4.24
5	L.	1.96	6.23	......	......	1.77	4.00	22	H.	6.63	......	6.91	1.61	......	4.26
5	H.	6.47	......	6.32	1.64	......	3.98	22	L.	1.04	6.99	......	......	1.62	4.30
5	L.	1.33	6.41	......	......	1.61	4.01	23	H.	7.35	......	7.14	1.62	......	4.38
5	H.	6.35	......	6.41	1.58	......	3.99	23	L.	2.21	7.29	......	......	1.69	4.49
6	L.	1.83	6.41	......	......	1.50	3.95	23	H.	7.24	......	7.44	1.75	......	4.59
6	H.	6.47	......	6.48	1.41	......	3.95	23	L.	1.29	7.58	......	......	1.83	4.70
6	L.	1.00	6.55	......	......	1.33	3.94	24	H.	7.92	......	7.59	1.91	......	4.75
7	H.	6.64	......	6.56	1.25	......	3.90	24	L.	2.54	7.60	......	......	1.96	4.78
7	L.	1.50	6.56	......	......	1.24	3.90	24	H.	7.29	......	7.62	2.00	......	4.81
7	H.	6.48	......	6.62	1.24	......	3.93	24	L.	1.46	7.63	......	......	2.03	4.83
7	L.	0.98	6.69	......	......	1.29	3.99	25	H.	7.98	......	7.58	2.05	......	4.81
8	H.	6.90	......	6.68	1.34	......	4.01	25	L.	2.65	7.52	......	......	2.09	4.80
8	L.	1.71	6.67	......	......	1.38	4.02	25	H.	7.06	......	7.43	2.12	......	4.78
8	H.	6.44	......	6.70	1.42	......	4.06	25	L.	1.60	7.34	......	......	2.15	4.75
8	L.	1.13	6.74	......	......	1.51	4.12	26	H.	7.63	......	7.23	2.18	......	4.71
9	H.	7.04	......	6.77	1.60	......	4.19	26	L.	2.77	7.12	......	......	2.24	4.68
9	L.	2.08	6.81	......	......	1.72	4.26	26	H.	6.61	......	6.99	2.30	......	4.15
9	H.	6.58	......	6.84	1.84	......	4.34	26	L.	1.84	6.87	......	......	2.27	4.57
9	L.	1.60	6.86	......	......	1.94	4.40	27	H.	7.13	......	6.68	2.23	......	4.46
10	H.	7.15	......	6.83	2.05	......	4.44	27	L.	2.63	6.49	......	......	2.25	4.37
10	L.	2.50	6.80	......	......	2.17	4.49	27	H.	5.86	......	6.35	2.27	......	4.31
10	H.	6.46	......	6.77	2.30	......	4.53	27	L.	1.92	6.20	......	......	2.29	4.24
10	L.	2.10	6.74	......	......	2.39	4.57	28	H.	6.54	......	6.04	2.30	......	4.17
11	H.	7.02	......	6.66	2.49	......	4.57	28	L.	2.69	5.87	......	......	2.36	4.12
11	L.	2.88	6.57	......	......	2.55	4.56	28	H.	5.21	......	5.74	2.42	......	4.08
11	H.	6.13	......	6.51	2.61	......	4.56	28	L.	2.15	5.61	......	......	2.43	4.02
11	L.	2.35	6.44	......	......	2.61	4.53	29	H.	6.02	......	5.51	2.45	......	3.98
12	H.	6.75	......	6.29	2.61	......	4.45	29	L.	2.75	5.41	......	......	2.55	3.98
12	L.	2.88	6.13	......	......	2.60	4.37	29	H.	4.81	......	5.36	2.66	......	4.01
12	H.	5.52	......	5.95	2.59	......	4.27	29	L.	2.57	5.30	......	......	2.64	3.97
12	L.	2.30	5.76	......	......	2.43	4.09	30	H.	5.79	......	5.36	2.62	......	3.99
13	H.	6.00	......	5.69	2.26	......	3.98	30	L.	2.68	5.42	......	......	2.68	4.05
13	L.	2.23	5.61	......	......	2.33	3.97	30	H.	5.06	......	5.49	2.73	......	4.11
13	H.	5.23	......	5.47	2.40	......	3.94	31	L.	2.79	5.56	......	......	2.75	4.15
13	L.	2.58	5.33	......	......	2.64	3.99	31	H.	6.06	......	5.56	2.77	......	4.16
14	H.	5.44	......	5.19	2.87	......	4.03	31	L.	2.75	5.56	......	......	2.80	4.18
14	L.	3.17	5.05	......	......	2.96	4.01	31	H.	5.06	......	5.75	2.83	......	4.29
14	H.	4.67	......	4.93	3.05	......	3.99	June 1	L.	2.92	5.94	......	......	2.76	4.35
14	L.	2.94	4.81	......	......	3.07	3.94	1	H.	6.83	......	6.16	2.68	......	4.42
15	H.	4.96	......	4.67	3.08	......	3.87	1	L.	2.44	6.37	......	......	2.68	4.53
15	L.	3.13	4.52	......	......	3.06	3.79	1	H.	5.92	......	6.22	2.68	......	4.45
15	H.	4.08	......	4.53	3.04	......	3.79	2	L.	2.92	6.06	......	......	2.65	4.35
15	L.	2.96	4.54	......	......	2.99	3.76	2	H.	6.21	......	6.19	2.61	......	4.40
16	H.	5.00	......	4.57	2.94	......	3.75	2	L.	2.31	6.31	......	......	2.60	4.46
16	L.	2.92	4.60	......	......	2.90	3.75	2	H.	6.42	......	6.38	2.59	......	4.49
16	H.	4.21	......	4.57	2.85	......	3.71	3	L.	2.88	6.45	......	......	2.52	4.48
17	L.	2.79	4.54	......	......	2.78	3.66	3	H.	6.48	......	6.53	2.44	......	4.48
17	H.	4.88	......	4.68	2.71	......	3.69	3	L.	2.00	6.60	......	......	2.41	4.50
17	L.	2.63	4.81	......	......	2.64	3.73	3	H.	6.73	......	6.60	2.37	......	4.49
17	H.	4.75	......	4.88	2.57	......	3.72	4	L.	2.75	6.60	......	......	2.35	4.48
18	L.	2.52	4.94	......	......	2.44	3.69	4	H.	6.48	......	6.71	2.33	......	4.52
18	H.	5.13	......	4.96	2.30	......	3.63	4	L.	1.92	6.81	......	......	2.34	4.58
18	L.	2.08	4.98	......	......	2.24	3.61	5	H.	7.15	......	6.83	2.35	......	4.59
18	H.	4.83	......	5.00	2.18	......	3.59	5	L.	2.79	6.84	......	......	2.38	4.61
19	L.	2.29	5.03	......	......	1.99	3.56	5	H.	6.54	......	6.89	2.40	......	4.65
19	H.	5.23	......	5.09	1.79	......	3.44	5	L.	2.02	6.93	......	......	2.44	4.68
19	L.	1.29	5.15	......	......	1.64	3.40	6	H.	7.33	......	6.97	2.47	......	4.72
19	H.	5.08	......	5.20	1.49	......	3.34	6	L.	2.92	7.00	......	......	2.48	4.74
20	L.	1.69	5.24	......	......	1.40	3.32	6	H.	6.67	......	......	2.50	......	......
20	H.	5.40	......	5.43	1.30	......	3.37	6	L.	2.08	......	......	......	......	......

EFFECT OF CHANGES IN THE ATMOSPHERIC PRESSURE UPON THE HALF-TIDE LEVEL OF THE SEA.

Both theory and observation prove that the atmospheric pressure exercises a considerable effect upon the half tide level of the sea. Supposing that, on a certain day, the atmospheric pressure be the same at Polaris Bay and at other localities, situated a certain distance north and south of this place, and let the pressure increase at Polaris Bay while it remains the same at the other places, it is clear that the water in attempting to reach its equilibrium will flow off in the direction where the pressure is least, thus causing the half-tide level at Polaris Bay to fall.

From the complex nature of cases of this kind it will be seen that the solution of such problems is rather difficult. In accordance with theory, observations made at different localities demonstrate that a rise of the barometer is followed by a fall of the tide-level and *vice versa*.* The results obtained vary, however, very considerably as to the ratio between rise and fall. This ratio was found to be for—

London, (Sir John Lubbock)	1 : 7
Liverpool, (Sir John Lubbock)	1 : 11
Bristol, (Bunt)	1 : 13.4
Fiume, (Stahlberger)	1 : 13.1
Port Leopold, (Sir J. C. Ross)	1 : 13
Petropaulowsky, (?)	1 : 13
Algiers, (Aimé)	1 : 13.1
Port Foulke (Ch. A. Schott)	1 : 4 (?)

From the above compilation it would appear that the ratio 1:13, which is nearly the same as that between the specific gravities of sea-water and mercury, is about a normal one.

The result of our investigation depends entirely on the record of the barometer-readings as contained in the "Table for the reduction of tides, No. 1," to be given hereafter. The half-tide levels as deduced on the preceding pages were also transferred to that table to facilitate the reduction. The barometer-record given there is the mean of two readings: one taken about 1 hour before, the other 1 hour after, the epoch of high water or low water. We proceeded with the investigation as follows: First, we ascertained the mean barometric pressure for the series from all the tabulated readings, by summing up all the columns of barometric readings and finding the mean. The result for each separate month is given in Table A.

TABLE A.

Sums and average values of barometer-readings for each month.

Month.	Sum of barometer-readings in each month.	Number of readings.	Average monthly atmospheric pressure.
	Inches.		*Inches.*
November, 1871	1603.488	53	30.2544
December, 1871	3327.548	112	29.7102
January, 1872	3572.376	120	29.7698
February, 1872	3227.516	108	29.8844
March, 1872	2900.649	96	30.2151
April, 1872	3473.166	115	30.2014
May, 1872	3603.957	120	30.0329
June, 1872	688.592	23	29.9388
Sums	22397.292	747	29.9829
$29^{in}.9829$ = mean of all the readings.			

* Compare Az Árapály a Fiumei Öbölben irta Stahlberger Emil. Budapest, 1874. Kiadja a Kir. Magyar Természettudományi Társulat. (The Tides at the Road of Fiume, by E. Stahlberger. Budapest, 1874. Royal Hungarian Society of Nat. Sciences), containing the latest and most careful investigation on this subject, derived from automatic records.

The mean of all the readings is 29^{in}.9829, that derived from the average monthly values being a small fraction higher, but as these latter values have different weights, we prefer to make use of the former only. The next step was to separate the half-tide levels into two groups of values corresponding to atmospheric pressures above and below the mean pressure of 29^{in}.9829. The difference between the mean height and the recorded height of the barometer was set down in another column opposite the corresponding half-tide level.* All the columns were finally added up and the means taken. Table B contains the result for each month separately:

TABLE B.

Half-tide levels corresponding to elevations above and depressions below the barometric mean 29^{in}.9829.

Month.	Number of observations.	Sum of half-tide levels.	Corresponding sum of barometer elevations above mean.	Number of observations.	Sum of half-tide levels.	Corresponding sum of barometer depressions below mean.
		Feet.	*Inches.*		*Feet.*	*Inches.*
November, 1871	48	172.27	+ 14.149	3	10.89	— 0.074
December, 1871	19	89.35	+ 4.596	91	484.58	— 35.390
January, 1872	18	82.01	+ 2.732	102	535.08	— 28.023
February, 1872	46	214.06	+ 9.474	62	320.64	— 20.122
March, 1872	74	284.92	+ 24.731	19	78.99	— 2.863
April, 1872	94	357.22	+ 26.990	21	87.27	— 1.869
May, 1872	66	254.04	+ 19.418	53	232.49	— 13.544
June, 1872	8	36.49	+ 0.297	12	54.15	— 0.915
Sums	373	1,490.36	+102.387	363	1,804.09	—102.800
Means	....	3.9955	+ 0.2745	....	4.9679	— 0.2832
Means of half-tide levels and corresponding barometer elevations					3.9955	+ 0.2745
Difference					+ 0.9724	— 0.5577

From the mean values of the above table it appears that a change of 0^{in}.5577 in the height of the barometric column causes a change of 0^{ft}.9724 in the half-tide level. This makes the ratio between rise of barometer and fall of level 1:17.4. This result is probably affected by incidental irregularities in the variation of the half-tide levels and mainly by the wind, which, as is well known, not only affects the barometric column differently as it blows from different quarters, but which, by its mechanical force, also exerts a directly elevating or depressing influence upon the half-tide level. In looking over the half-tide-level readings, there is *apparently* a break in the readings between November and December, 1871, and likewise after February, 1872. A careful comparison of the barometrical record and that of the wind with the half-tide level readings, however, tends to show that this is not actually the case, but that the real cause lies entirely in the change of the non-periodical effects during the different months. To support this view, we give for comparison in Table C the monthly average values of half-tide levels taken from Table B, and the differences between the average monthly barometric pressure and the mean value 29^{in}.9829 from Table A. The average declination of the moon for each month is also added, being taken from the tables accompanying the discussion of the effect of the moon's declination on the variation of the half-tide level. In the next column is given the monthly average level reduced to the mean barometric pressure of

* In some instances it occurs that only the height of the barometer, or only the half-tide level, could be recorded in the "Table for the reduction of tides, No. 1." In such cases these single values were not taken into account in the separation of values, thereby producing the difference in the number of values enumerated in this and in the preceding table.

$29^{in}.9829$, using the ratio 1:17.4. The last column contains the differences between this reduced level and the level $4^{ft}.44$, which latteri s the average level during calms, reduced to the average pressure of $29^{in}.9829$.

TABLE C.

Monthly average half-tide levels and corresponding barometric elevations and depressions.

Month.	Number of values.	Monthly average half-tide level.	Monthly average elevation or depression of the barometric column.	Average declination of the moon for each month.	Half-tide level reduced to mean atmosperic pressure, $29^{in}.9829$.	Diff. between the level, $4^{ft}.44$, and the reduced level.
		Feet.	*Inches.*	°	*Feet.*	*Feet.*
November, 1871	51	3.60	+0.2724	15.1	4.07	−0.37
December, 1871	110	5.22	−0.2718	15.5	4.75	+0.31
January, 1872	120	5.14	−0.2122	14.3	4.77	+0.33
February, 1872	108	4.95	−0.0976	15.3	4.78	+0.34
March, 1872	93	3.91	+0.2321	15.5	4.31	−0.13
April, 1872	115	3.87	+0.2194	16.7	4.25	−0.19
May, 1872	119	4.09	+0.0509	15.2	4.18	−0.26
June, 1872	20	4.53	−0.0432	15.2	4.46	+0.02
Means					4.45	±.00

The relation between the changes in the height of the barometric column and the half-tide level is expressed very strikingly in the above table. The half-tide levels for November and December differ by nearly equal amounts from the mean level of $4^{ft}.44$; we likewise find the barometric elevation of the first month almost exactly equal to the depression in the second month. The mean of the two half-tide levels is $4^{ft}.41$, differing but $0^{ft}.03$ from the average level $4^{ft}.44$. In every instance the half-tide levels corresponding to depressions of the barometric column are abov e $4^{ft}.44$, while those corresponding to elevations of the same are below $4^{ft}.44$. The results are unaffected by change in the moon's declination, as this is nearly the same for each month.

The differences in the last column change sign with the barometer values and apparently indicate that a variable ratio is required for each month to reduce them to a minimum. A part of these residuals, however, is traceable to uneliminated portions of the depressing or elevating influence of the wind, which in its average monthly effect seems to have gone hand in hand with the effect of the atmospheric pressure. But there is still another and very important fact not to be overlooked in this connection. While the ratio 1:17.4 may represent approximately enough the *average* atmospheric pressure for the whole period, it does not follow by any means that it is a constant or even a nearly constant value. On the contrary, it is very clear that it must undergo considerable variations under different conditions. For instance, a great change of atmospheric pressure may, perhaps, produce very little or no effect on the half-tide level when the pressure changes equally over a very large area of water at the same time, while the effect of a smaller change of pressure, when confined to a comparatively small area, may be considerable. From this, it follows that it is not merely the high or low barometer which will cause a depression or elevation of the half-tide level, but that the amount of the effect will depend very largely on the difference of atmospheric pressure at the place of observation and at other localities not far distant. Evidently the condition of the ice is another factor affecting the action of the atmospheric pressure.

As we presumed the ratio 1:17.4 to be affected by the wind, we also investigated the pressure effect solely from the barometer-readings corresponding to the half-tide levels during calms. From 104 readings we find the average half-tide level to be $4^{ft}.26$, corresponding to an average pressure of $30^{in}.0866$. If we reduce this level to the mean pressure of the series, $29^{in}.9829$, we obtain $4.^{ft}26 + 1.^{ft}7 \times 0.1037 = 4^{ft}.44$, which coincides very nearly with the mean half-tide level of the whole series. We then separated the values as we did before into groups of barometer values above and below the mean of $30^{in}.0866$. The results are given in detail in Table D.

TABLE D.

Effect of changes in the atmospheric pressure upon the half-tide level of the sea.

[Compiled from the half-tide levels and barometer-readings recorded in the table for the reduction of tides, No. 1, for days of calms.]

For elevations of barometer above $30^{in}.087$.

Date.	Elevation of barometer above mean.	Corresponding half-tide level.
	Inches.	*Feet.*
1871—November 7	0.178	3.40
7	0.165	3.31
Total for November	0.343	6.71
1871—December 7	0.183	4.60
1872—February 6	0.118	4.92
14	0.104	4.57
16	0.031	4.82
16	0.129	4.73
22	0.042	4.50
23	0.156	4.53
23	0.131	4.51
23	0.075	4.53
24	0.108	4.61
Total for February	0.894	41.72
1872—March 8	0.309	3.68
9	0.246	3.75
9	0.113	3.72
14	0.027	3.98
19	0.088	4.00
19	0.050	4.08
26	0.282	3.81
27	0.394	3.75
27	0.426	3.70
27	0.388	3.75
28	0.328	3.82
28	0.350	3.79
28	0.310	3.84
29	0.330	3.94
29	0.328	3.91
30	0.310	3.82
31	0.282	3.77
31	0.328	3.79
Total for March	4.889	68.90

For elevations of barometer above $30^{in}.087$.

Date.	Elevation of barometer above mean.	Corresponding half-tide level.
	Inches.	*Feet.*
1872—April 2	0.370	3.82
2	0.288	3.85
3	0.097	4.03
9	0.029	3.95
17	0.204	3.85
17	0.189	3.87
18	0.139	3.83
18	0.299	3.69
19	0.690	3.24
19	0.659	3.24
20	0.600	3.29
20	0.430	3.42
24	0.220	3.67
26	0.439	3.47
27	0.441	3.51
Total for April	5.094	54.73
1872—May 2	0.018	3.94
13	0.082	3.97
13	0.114	3.94
17	0.397	3.72
18	0.322	3.61
21	0.086	3.71
Total for May	1.019	22.89
Total of all the values	12.422	199.55
Total number of observations	51	51
Mean values	0.2435	3.913

For depressions of barometer below $30^{in}.087$.

Date.	Depression of barometer below mean.	Corresponding half-tide level.
	Inches.	*Feet.*
1871—December 3	0.179	4.80
4	0.387	5.17
4	0.487	5.30
8	0.130	4.88
9	0.441	5.41
18	0.361	4.56
24	0.675	5.42
Total for December	2.660	35.54

For depressions of barometer below $30^{in}.087$.

Date.	Depression of barometer below mean.	Corresponding half-tide level.
	Inches.	*Feet.*
1872—January 2	0.443	5.23
3	0.499	5.16
5	0.390	5.16
5	0.358	5.08
6	0.400	5.14
7	0.189	5.14
13	0.311	5.04
20	0.137	4.59
23	0.428	5.48

TABLE D—Continued.

For depressions of barometer below $30^{in}.087$.

Date.	Depression of barometer below mean.	Corresponding half-tide level.
	Inches.	*Feet.*
1872—January 24	0.459	5.46
31	0.253	5.00
31	0.343	5.07
Total for January	4.210	61.55
1872—February 8	0.358	5.06
20	0.573	5.31
25	0.649	5.39
25	0.396	5.15
Total for February	1.976	20.91
1872—March 14	0.063	4.00
14	0.009	3.97
15	0.012	3.89
20	0.041	4.22
Total for March	0.125	16.08
1872—April 4	0.069	4.16
4	0.113	4.15
5	0.107	4.15
5	0.142	4.20
5	0.145	4.20
9	0.035	3.96
10	0.060	4.06
11	0.028	3.93
13	0.201	4.09
13	0.233	4.20
Total for April	1.133	41.10

For depressions of barometer below $30^{in}.087$.

Date.	Depression of barometer below mean.	Corresponding half-tide level.
	Inches.	*Feet.*
1872—May 3	0.137	3.96
3	0.159	4.01
3	0.261	4.11
6	0.012	3.95
6	0.046	3.95
8	0.015	4.02
8	0.004	4.01
9	0.150	4.26
10	0.409	4.49
22	0.317	4.24
22	0.372	4.30
Total for May	1.882	45.30
1872—June 3	0.134	4.48
4	0.036	4.52
5	0.061	4.59
5	0.141	4.68
6	0.008	4.72
Total for June	0.470	22.99
Total of all the values	12.456	243.47
Total number of observations	53	53
Mean values	0.2350	4.594

From the means of this table we obtain the following result: A change of $(4^{ft}.594-3^{ft}.913)=0^{ft}.681$ in the half-tide level corresponds to a change of $(0^{in}.2435+0^{in}.2350)=0^{in}.4785$ in the barometric column, thus making the ratio between rise and fall 1:14.2. This ratio may be considered nearly free from the effect of the wind, and as it approximates closely to the results found for a number of other places we consider it to be entitled to some confidence.

EFFECT OF THE WIND UPON THE HALF-TIDE LEVEL.

The non-periodical changes in the half-tide level, besides being due to a change in the atmospheric pressure, are also greatly affected by the direction and velocity of the prevailing wind. As the influence exerted by the wind is entirely local, a glance at the chart will tell which winds are likely to raise the water at Polaris Bay and which would produce the contrary effect. It will be seen that the shores of Polaris Bay trend for about 25 miles in a nearly northerly and southerly direction, curving out slightly to the westward about midway and at its northern and southern ends. The bay is thus entirely open to all the sea-winds, and it is but natural to suppose that the latter in sweeping through the straits would drive the water before them.

The changeable condition of the ice in the straits will, of course, modify the effect of the wind and during those seasons of the year when the ice is more compact the effect of the wind upon the half-tide level is probably but very slight. It was our aim to obtain as approximate results as the nature and extent of the data at our disposal would permit. After a preliminary investigation we arrived at the conclusion that it would be advisable to take the effect of atmospheric pressure into account, as we found that this effect could not be regarded even as nearly eliminated, when the number of observations was small. The wind-record, as also the atmospheric pressures and half-tide levels as given in the "Table for the reduction of tides, No. 1," served as the basis for this investigation.

The method pursued was as follows:

The half-tide levels and atmospheric pressures were classed into nine groups, corresponding to calms and to the winds from each of the four cardinal and from four intermediate points of the compass. We need scarcely mention that the recorded directions of the wind are the true directions.

The velocity of the wind, in miles per hour, and the number of observations were also set down The values of each group were then added and the mean taken. The following preliminary table contains the result from each group for each month separately. By this separation the distribution of the wind during each month is made clear at a glance, while at the same time it serves as a means of controlling the correctness of the work, as it enables us to detect easily any serious errors in the sums of half-tide levels or atmospheric pressures.

Preliminary table for the determination of the effect of the wind upon the half-tide level.

Months.	Calms.				North winds.				Northeast winds.			
	Corresponding sums of—											
	Half-tide levels.	Atmospheric pressures.	Velocities in miles.	Number of observations.	Half-tide levels.	Atmospheric pressures.	Velocities in miles.	Number of observations.	Half-tide levels.	Atmospheric pressures.	Velocities in miles.	Number of observations.
	Feet.	*Inches.*			*Feet.*	*Inches.*			*Feet.*	*Inches.*		
November, 1871	6.71	60.517	......	2	3.53	30.064	2	1	108.43	908.690	622	30
December, 1871	40.14	238.219	......	8	4.44	30.331	30	1	188.65	1100.188	475	37
January, 1872	61.55	356.834	......	12	34.23	177.368	138	6	196.75	1129.678	449	38
February, 1872	62.63	390.049	......	13	4.17	30.482	4	1	177.90	1107.626	376	37
March, 1872	84.98	666.678	......	22	......	......	......	......	131.43	992.300	822	33
April, 1872	95.83	756.136	......	25	3.81	30.372	4	1	36.75	302.715	216	10
May, 1872	68.19	510.608	......	17	......	......	......	......	124.13	896.652	667	30
June, 1872	22.99	149.965	......	5	......	......	......	......	......	......	......	......
Total	443.02	3129.006	......	104	50.18	298.617	178	10	964.04	6437.849	3,627	215
Means	4.26	30.0866	......	......	5.02	29.8617	18	......	4.48	29.9435	17	......

Months.	East winds.				Southeast winds.				South winds.			
November, 1871	45.91	392.404	67	13	3.36	30.310	5	1	......	......	......	......
December, 1871	215.52	1181.152	257	40	15.76	89.039	22	3	15.13	89.752	16	3
January, 1872	103.88	594.476	87	20	62.08	358.955	40	12	10.09	59.837	7	2
February, 1872	160.93	956.387	130	32	35.98	208.728	21	7	20.02	119.482	10	4
March, 1872	97.06	757.297	87	25	34.06	273.164	28	9	8.09	60.176	3	2
April, 1872	118.28	904.670	113	30	96.30	755.155	73	25	......	......	......	......
May, 1872	31.58	241.019	22	8	41.52	332.887	30	11	3.99	30.023	2	1
June, 1872	13.71	89.998	8	3	......	......	......	......	4.58	30.278	2	1
Total	786.87	5120.403	771	171	289.06	2048.238	219	68	61.90	389.548	40	13
Means	4.60	29.9439	4.5	......	4.25	30.1208	3	......	4.76	29.9965	3	......

Months.	Southwest winds.				West winds.				Northwest winds.			
November, 1871	15.18	121.223	34	4	......	......	......	......	......	......	......	......
December, 1871	66.81	387.008	239	13	10.84	59.340	28	2	15.53	89.301	6	3
January, 1872	81.91	508.645	78	17	32.82	178.127	16	6	24.68	149.577	5	5
February, 1872	53.31	295.550	112	10	10.72	59.127	7	2	9.42	59.889	7	2
March, 1872	......	......	......	......	4.09	30.293	2	1	3.86	30.348	1	1
April, 1872	23.08	181.156	102	6	22.70	181.273	20	6	43.41	332.149	35	11
May, 1872	184.15	1322.756	282	44	21.36	148.233	10	5	15.54	120.488	14	4
June, 1872	26.56	179.250	59	6	18.00	119.846	18	4	9.13	59.857	11	2
Total	451.00	2995.588	906	100	120.53	776.239	101	26	121.57	841.609	111	28
Means	4.51	29.9559	9	......	4.64	29.8553	4	......	4.34	30.0574	4	......

From the preceding table it will be seen that the average half-tide levels for the different directions of wind have unequal atmospheric pressures, and, therefore, the half-tide level may, in one case, have too small and in another case too large a value compared with its value for a certain standard pressure. For this standard pressure we adopt the mean value of all the pressures as found in the preceding investigation. This value is $29^{in}.9829$, to which we reduce each average half-tide level by the formerly deduced ratio 1:17.4.

The following table contains the average half-tide level and the barometric elevation above or depression below $29^{in}.9829$ corresponding to it, for calms and for each direction of wind, and also the level reduced as explained above. The approximate average declination of the moon, which also affects the half-tide level, though to a small extent only, is added as a mean of correction if such should be deemed necessary.

Table showing the approximate effect of the wind upon the half-tide level.

Direction of the wind.	Number of observations.	Average half-tide level.	Corresponding average elevation (+), or depression (—), of atmospheric pressure.	Half-tide level reduced to the mean pressure of $29^{in}.9829$ by the ratio 1:17.4.	Approximate average declination of moon corresponding to average half-tide level.	Approximate effect of the wind on the half-tide level.		Average velocity of wind in miles per hour.
						Rise.	Fall.	
		Feet.	*Inches.*	*Feet.*	°	*Feet.*	*Feet.*	
Calms	104	4.26	+0.1038	4.44	15	....	....	....
North	10	5.02	—0.1211	4.79	17	0.33	....	18
Northeast	215	4.48	—0.0393	4.41	15	....	0.03	17
East	171	4.60	—0.0389	4.53	15	0.09	....	4.5
Southeast	68	4.25	+0.1380	4.49	15	0.05	....	3
South	13	4.76	+0.0137	4.78	16	0.34	....	40
Southwest	100	4.51	—0.0269	4.46	15	0.02	....	9
West	26	4.64	—0.1275	4.38	17	....	0.06	4
Northwest	28	4.34	+0.0746	4.47	15	0.03	....	4

The average half-tide levels in the above table correspond nearly to the moon's mean declination of 15°.5, except for north and west winds, for which we applied a correction of $0^{ft}.02$ in accordance with the results obtained from the discussion of the variation of the half-tide level due to changes in the moon's declination.

As a basis of comparison of the effect of the different winds we use the reduced average half-tide level on the days of calms. By taking the difference between this and each of the other reduced half-tide levels we obtain, at least approximately, the rise or fall of the half-tide level due to the effect of the wind. This effect is recorded in the above table in the columns headed rise and fall; the average velocity of the wind corresponding to this effect is given in the last column.

The effect may be summed up as follows:

Strong north and south winds appear to produce a rise in the half-tide level amounting to between 3^{in} and 4^{in}. The weight of this result is small and a larger number of observations would probably somewhat change the amount of the effect. The depressing or elevating effect of the wind from the remaining directions is very small in each case, and owing to the comparatively limited number of observations hardly pronounced enough to permit of any definite conclusions being drawn. East winds appear to produce a rise of $0^{in}.9$, while west winds seem to have a contrary effect of nearly the same magnitude. For both these winds the average velocity was less than 5 miles per hour. The winds from NE. were the most prevailing, with an average velocity of 17 miles per hour, and apparently depressing the level by $0^{in}.3$, this result possessing the largest weight. The month of November, with only fourteen days of observations, shows comparatively the largest number of NE. winds, with a greater velocity than the average. For this month, as also for March, April, and May, the average velocity is considerably higher than for December, January, and February. This fact, in connection with the variation of the monthly barometric means, would seem to explain, in a large measure, the apparent breaks in the half-tide levels during November, 1871, as also in March, 1872. To find the effect due to different velocities of the wind, our data are, of course, entirely inadequate; neither was it possible to ascertain the effect for the different conditions of the ice.

EFFECT OF THE MOON'S AND SUN'S DECLINATION ON THE VARIATION OF THE HALF-TIDE LEVEL.

According to theory, the variation in the half-tide level as depending on changes of the moon's and sun's declination can be expressed by the formula—

$$A \sin^2 \delta_m + B \sin^2 \delta_s$$

where δ_m and δ_s denote the declinations of the moon and sun respectively. The constants A and B are to be derived from observation, and they are greater near the equator and near the poles than in middle latitudes. Observations made at different places seem to confirm the dependence of a rise of the level on an increase of the moon's declination, irrespective of the sign of the latter. The variation in the half-tide level goes through its changes from zero to maximum declination, and the level will reach its lowest and highest values, respectively, at these epochs.

Owing to the non-periodical effects on the half-tide level, produced by changes in the atmospheric pressure and by the prevailing winds, which in many cases will exceed in magnitude the variation dependent on the declination itself, an inquiry into this subject with a view to test the correctness of theory, as compared with actual observation, can only give perfectly satisfactory results when the observations extend over a longer period of time than is the case with ours.

Another difficulty attending this investigation is that we have to deal with exceedingly small values; the range of the variation amounting to a few inches only. Still, we may try to obtain an approximation to the true values, and as far as the result of our investigation is concerned it seems to be quite within the limits of reliability. The method used in this investigation is as follows:

The half-tide levels for each day, made out as explained before, were summed up and the means taken. These mean values are given in the table at the end of this discussion, together with the moon's declination for noon of each day, placed opposite the corresponding half-tide level. In some portions of the series an increase or decrease in the levels can be detected by mere inspection of the table; in other portions the variation is obscured by irregularities, produced by the non-periodical effects. To investigate the accordance of theory with observation, it is necessary to separate the half-tide levels into groups for different values of declination, and to see if the law of the increase or decrease of the resulting means of these groups corresponds to an expression of the form $Z + A \sin^2 \delta_m$, where Z denotes the half-tide level at zero declination, and the second term, $A \sin^2 \delta_m$, the variation or difference between the levels at declination δ_m and zero declination. After trying a separation of the levels into groups for declinations between 0° and 5°, 5° and 10°, 10° and 15°, &c., we could not obtain a satisfactory result from the means of these groups, the number of values in each group being evidently too small to eliminate the non-periodical effects. To obtain as large a number of values in a group as possible we finally adopted the following method:

By adding all the columns of half-tide levels and dividing the sum by their number we found from 195 values the mean half-tide level $L = 4^{ft}.459$ to correspond to $\delta_m = 15° 30'$. This value of L appears to be perfectly reliable, and agrees with the mean of the high-water and low-water levels $\left(\frac{6.39 + 2.53}{2}\right) = 4^{ft}.46$, as deduced further on in the discussion of the semi-mensual inequality in height. Next, we separated the levels into groups of values corresponding to declinations below and above the mean $\delta_m = 15°.5$.

The resulting values are—

From 90 values $L = 4^{ft}.365$, corresponding to $\delta_m = 8° 06'$.
From 105 values $L = 4^{ft}.540$, corresponding to $\delta_m = 21° 40'$.

In order to find the variation and its range we should know the values of the half-tide levels at the moon's zero and maximum declination. We found—

From 15 values nearest to zero δ_m, $L = 4^{ft}.319$, corresponding to $\delta_m = 1° 30'$.
From 13 values nearest to max. δ_m, $L = 4^{ft}.690$, corresponding to $\delta_m = 24° 58'$.

According to these values the variation between $\delta_m = 1° 30'$ and $\delta_m = 24° 58'$ would amount to $0^{ft}.371$. The reliability of this result, however, is much impaired by the small number of observations,* and the range is probably a little too large.

* We tried to remedy this by applying corrections for the non-periodical effects, but this proved to be rather difficult, as it became doubtful whether the errors contained in the corrections applied could be considered small enough

However, as we cannot expect more than an approximation, we shall make use of the values previously enumerated in deducing analytically approximate values of the level Z at zero δ_m, and of the constant A. By the method of least squares we find for Z and A the following equations of condition:

$$5\,Z + A\,.\,\Sigma\,(\sin^2\delta_m) - \Sigma\,(L) = 0, \text{ and}$$
$$A\,.\,\Sigma\,(\sin^4\delta_m) + Z\,.\,\Sigma\,(\sin^2\delta_m) - \Sigma\,(L\,.\,\sin^2\delta_m) = 0$$

Solving these we obtain—

$$Z = 4^{ft}.315.$$
$$A = 1^{ft}.968.$$

Our expression thus becomes—

$$L = 4^{ft}.315 + 1^{ft}.968 \sin^2\delta_m.$$

With this formula we computed the half-tide levels for different values of δ_m given in the following table together with the values observed:

Variations of the half-tide level, as depending on changes in the moon's declination.

Moon's declination.	Half-tide level. Observed.	Half-tide level. Computed.	Variation. Observed, $Z = 4^{ft}.315$.	Variation. Computed, $1^{ft}.968.\sin^2\delta_m =$	Difference between observed and computed value.	Number of observations.
° ′	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	
0 00	....	4.315	....	±0.000	....	......
1 30	4.319	4.316	+0.004	+0.001	+0.003	15
8 06	4.365	4.354	+0.050	+0.039	+0.011	90
15 30	4.459	4.456	+0.144	+0.141	+0.003	195
21 40	4.540	4.583	+0.225	+0.268	—0.043	105
24 58	4.690	4.653	+0.375	+0.338	+0.037	13
25 30	....	4.679	....	+0.364	....	......

In using for the deduction of Z and A only the three values for $\delta_m = 8^\circ\ 6'$, $15^\circ\ 30'$, and $21^\circ\ 40'$, which have larger weight, we find the three corresponding half-tide levels very closely represented by $L = 4^{ft}.340 + 1^{ft}.51 \sin^2\delta_m$, the whole range of the variation amounting then to $0^{ft}.280$, and the largest difference to $0^{ft}.011$ only. We made still another test. Assuming in conformity with the retardation of the tide, as found in the discussion of the semi-mensual inequality given hereafter, that the greatest effect does not take place at the time of the greatest force, but about 24 hours later, we also investigated the result by taking this retardation of the tide into account, in separating the half-tide levels and using the declination at noon of the preceding day as corresponding to the half-tide level on the day in question. The number of groups was the same as before, and in deducing the constants Z and A we used the mean values of all of the five groups. By means of the method previously used we found for the expression of the half-tide level—

$$L = 4^{ft}.344 + 1^{ft}.55 \sin^2\delta_m.$$

to render the corrected values more reliable than the values given above. In trying to eliminate the effect of atmospheric pressure, we grouped the barometer-readings in the same manner as the corresponding half-tide levels, with the intention of reducing the half-tide levels of each group to a uniform or mean atmospheric pressure. In comparing the average atmospheric pressures corresponding to the five values of δ_m, we found the atmospheric pressure to decrease with increasing declination of the moon, the range of pressure between zero and maximum declination amounting to a little over $0^{in}.1$. Considering the high latitude of Polaris Bay, we have reason to suppose that this result is merely accidental, the more so as the effect of the moon on the atmospheric pressure is scarcely perceptible at Paris, which is about 34° nearer to the equator than our arctic station. La Place deduced $\frac{1}{18}$ millimeter from a series of observations made at Paris from October 1, 1815, to October 1, 1823, but the probable error of this value is almost as great as the value itself. (*La Place, Œuvres*, t. 6, p. 281. *Traité de mécanique céleste*, livre 13, chap. 7.) Bouvard, (*Mémoires de l'Académie royale des sciences de l'Institut de France*, vol. 7, p. 287,) in investigating the same series of observations that La Place had made use of (only extended over two more years,) finds that the effect in question vanishes almost entirely.

How far the computed values agree with those observed may be seen from the following table:

Observed and computed variation in the half-tide level, as dependent on changes in the moon's declinations, when the retard of the tides is taken into account.

Moon's declination, $\delta_m =$	Half-tide level. Observed.	Half-tide level. Computed.	Variation. Observed, L=4ft.344.	Variation. Computed, $1^{ft}.55.\sin^2\delta_m =$	Difference between observed and computed value.	Number of observations in each group.
° ′	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	
0 00	....	4.344	....	0.000	....	......
1 30	4.334	4.345	—0.010	+0.001	—0.011	15
8 01	4.394	4.374	+0.050	+0.030	+0.020	88
15 30	4.459	4.455	+0.115	+0.111	+0.004	195
21 36	4.512	4.554	+0.168	+0.210	—0.042	107
24 58	4.647	4.620	+0.303	+0.276	+0.027	13
25 30	....	4.631	....	+0.287	....	......

The result from this last table is probably more reliable than that of the former. The differences between observed and computed values arise partly from the uncertainty of observation, and partly from uneliminated portions of the non-periodical effects and from the effect of the sun's declination From all the results obtained we may conclude with some confidence that the actual range of vari ation between zero and maximum declination amounts to very little more or less than 3 inches. At the same time the results of this investigation may serve as a criterion of the value of the observations, which, considering the difficulties attending tidal observations in high latitudes, are proved to be very reliable, as will also be seen from the results of our subsequent discussions.

EFFECT OF CHANGES IN THE SUN'S DECLINATION ON THE VARIATION OF THE HALF-TIDE LEVEL.

As may well be imagined, the effect of the sun's declination on the variation of the half-tide level is still less than that of the moon, and therefore it is more difficult to deduce, and would require a series of observations extending over a period of at least twelve months. For this reason the investigation of this effect was omitted. In the expression of the sun's effect $B.\sin^2\delta_s$, the constant B is theoretically about $\frac{4}{9}$ A. The range of the variation would therefore amount to $0^{ft}.13$ approximately. The process of investigation would be similar to that for determining the moon's effect.

The table used to determine the effect of the moon's declination is as follows:

Table for the determination of the effect of changes in the moon's declination on the variation of the half-tide level.

Date.	Half-tide level.	Moon's declination at noon.	Date.	Half-tide level.	Moon's declination at noon.	Date.	Half-tide level.	Moon's declination at noon.	Date.	Half-tide level.	Moon's declination at noon.
1871.	*Feet.*	°	1871.	*Feet.*	°	1871.	*Feet.*	°	1871.	*Feet.*	°
Nov. 6	....	+17.04	Nov. 12	3.43	—14.81	Nov. 18	3.89	—19.86	Dec. 6	4.94	+ 4.51
7	3.34	12.76	13	3.65	19.40	19	3.96	15.80	7	4.62	— 1.07
8	3.45	7.76	14	3.58	22.73	20	3.90	—11.04	8	4.86	6.79
9	3.48	+ 2.25	15	3.52	24.48	Dec. 3	....	+18.31	9	5.20	12.37
10	3.25	— 3.58	16	3.80	24.50	4	5.22	14.37	10	5.50	17.39
11	3.50	— 9.39	17	3.87	—22.86	5	5.39	+ 9.72	11	5.59	—21.39

Table for the determination of the effect of changes in the moon's declination, &c.—Continued.

Date.	Half-tide level.	Moon's declination at noon.	Date.	Half-tide level.	Moon's declination at noon.	Date.	Half-tide level.	Moon's declination at noon.	Date.	Half-tide level.	Moon's declination at noon.
1871.	*Feet.*	°	1872.	*Feet.*	°	1872.	*Feet.*	°	1872.	*Feet.*	°
Dec. 12	5.69	−23.95	Jan. 24	5.63	+24.21	Mar. 12	4.30	+ 8.95	Apr. 25	3.67	−20.00
13	5.88	24.74	25	5.88	22.48	13	4.23	13.87	26	3.51	23.32
14	5.58	23.70	26	5.50	19.91	14	4.00	18.06	27	3.52	25.15
15	5.49	21.05	27	4.97	16.34	15	3.83	21.37	28	3.53	25.26
16	4.84	17.15	28	4.77	12.03	16	4.28	23.69	29	3.75	23.78
17	4.38	12.42	29	5.15	7.17	17	4.19	24.92	30	3.57	20.79
18	4.57	7.23	30	5.39	+ 1.93	18	3.92	25.02	May 1	3.73	16.62
19	5.04	− 1.87	31	5.13	− 3.49	19	4.11	23.99	2	3.86	11.62
20	5.21	+ 3.43	Feb. 1	4.88	8.88	20	4.24	21.85	3	4.06	6.12
21	5.21	8.48	2	4.71	13.98	21	3.73	18.71	4	4.12	− 0.41
22	5.19	13.12	3	5.12	18.30	22	3.61	14.69	5	4.00	+ 5.23
23	5.29	17.18	4	5.28	22.01	23	3.62	9.95	6	3.95	10.56
24	5.40	20.51	5	5.12	24.22	24	3.56	+ 4.68	7	3.93	15.36
25	5.40	22.95	6	4.96	24.78	25	3.37	− 0.91	8	4.06	19.40
26	5.40	24.38	7	5.00	23.55	26	3.79	6.55	9	4.30	22.52
27	5.31	24.71	8	5.04	20.66	27	3.73	12.00	10	4.51	24.56
28	5.19	23.91	9	5.14	16.43	28	3.83	16.91	11	4.56	25.45
29	5.21	22.04	10	5.21	11.29	29	3.94	20.94	12	4.29	25.17
30	5.19	19.18	11	5.12	− 5.68	30	3.87	23.79	13	3.97	23.75
31	5.13	+15.46	12	5.02	+ 0.05	31	3.78	25.15	14	3.99	21.19
1872.			13	4.79	5.58	Apr. 1	3.78	24.90	15	3.80	17.89
Jan. 1	5.18	+11.05	14	4.62	10.70	2	3.86	23.04	16	3.74	13.70
2	5.24	6.09	15	4.81	15.24	3	4.06	19.76	17	3.70	8.85
3	5.16	+ 0.75	16	4.78	19.04	4	4.15	15.53	18	3.63	+ 3.50
4	5.21	− 4.76	17	5.16	21.98	5	4.18	10.11	19	3.43	− 2.16
5	5.13	10.23	18	5.68	23.94	6	4.22	−4.44	20	3.44	7.91
6	5.11	15.35	19	5.20	24.83	7	4.27	+1.36	21	3.89	13.44
7	5.08	19.74	20	5.23	24.60	8	4.09	6.99	22	4.25	18.38
8	5.33	22.95	21	4.74	23.22	9	3.98	12.20	23	4.54	22.29
9	5.65	24.59	22	4.48	20.79	10	4.01	16.76	24	4.79	24.76
10	5.55	24.40	23	4.53	17.39	11	3.95	20.48	25	4.79	25.50
11	5.43	22.40	24	4.74	13.18	12	4.01	23.22	26	4.53	24.44
12	5.21	18.88	25	5.40	8.33	13	4.09	24.87	27	4.35	21.76
13	5.08	14.28	26	4.95	+ 3.06	14	4.18	25.36	28	4.10	17.77
14	5.16	9.03	27	4.32	− 2.42	15	3.91	24.69	29	3.99	12.88
15	5.05	− 3.51	28	4.17	7.89	16	3.76	22.92	30	4.05	7.45
16	4.74	+ 1.98	29	4.18	13.09	17	3.85	20.11	31	4.20	− 1.79
17	4.43	7.22	Mar. 5	......	24.35	18	3.72	16.38	June 1	4.44	+ 3.84
18	4.31	12.04	6	4.25	22.07	19	3.39	11.48	2	4.43	9.21
19	4.31	16.28	7	3.91	18.36	20	3.49	6.76	3	4.49	14.11
20	4.70	19.80	8	3.69	13.56	21	3.84	+ 1.21	4	4.52	18.34
21	5.01	22.46	9	3.71	8.07	22	4.09	− 4.54	5	4.63	21.72
22	5.42	24.14	10	3.77	− 2.27	23	3.97	10.23	6	4.73	+24.09
23	5.41	+24.74	11	4.11	+ 3.50	24	3.69	−15.51			

REDUCTION OF TIDES OBSERVED AT POLARIS BAY.

In reducing the preceding original observations we made use of the United States Coast Survey blanks, kindly furnished by the Superintendent of that Office. While the blanks for the second reduction were used unaltered, we made some changes in the last three columns of No. 1. The column headed "Duration of tide" was dropped, and the half-tide levels for low water substituted. The triple column, giving the direction and velocity of the wind, the atmospheric pressure, and the temperature, also underwent some changes by leaving out the temperature and substituting the half-tide levels for high water, and instead of giving the state of the weather, as done in the original blank, we preferred to use the last column for the moon's parallax and declination. For further explanation we need only state that the time of the moon's meridian passage and of both high and low water is mean time throughout; that the lower transits of the moon are placed between brackets, and that the lunitidal intervals depending upon the lower transits are distinguished in the same manner.

Table for the reduction of tides, No. 1.—Showing the times of high and low water, and the heights of high and low water, together with the moon's passing the meridian of the place, the lunitidal intervals, &c.

Date.	Moon passes the meridian.—Mean time.	Mean time of—		Lunitidal interval.		Height of—		Low water.				High water.				Moon's—	
		High water.	Low water.	High water.	Low water.	High water.	Low water.	Half-tide level.	Barometer reduced.	Wind. Direction.	Wind. Velocity.	Half-tide level.	Barometer reduced.	Wind. Direction.	Wind. Velocity.	Parallax at noon.	Declination at noon.
1871.	h. m.	h. m.	h. m.	h. m.	h. m.	Feet.	Feet.	Feet.	Inches.			Feet.	Inches.			′	°
Nov. 5	6 03	......	......	......	......	......	......	......	......	......	...	......	......	......	...	......	......
	[18 27]	......	......	......	......	......	......	......	......	......	...	......	......	......	...	......	......
6	6 51	6 30	......	[12 03]	......	4.79	......	......	......	......	...	......	30.144	NE	10	55.79	+17.02
	[19 15]	20 30	12 30	13 39	[18 03]	4.71	2.75	......	30.136	0	0	3.58	.140	SW	6	......	......
7	7 38	7 45	2 30	[12 30]	19 39	3.67	2.63	3.40	.265	0	0	3.36	.316	SE	5	56.52	+12.74
	[20 01]	21 00	15 00	13 22	[19 45]	4.75	2.42	3.30	.278	E	2	3.31	.252	0	0	......	......
8	8 24	10 00	3 30	[13 59]	19 52	4.33	2.08	3.40	30.219	E	5	3.44	30.111	E	6	57.40	+ 7.79
	[20 48]	21 00	16 00	12 36	[19 59]	4.96	2.50	3.44	29.958	E	1	3.52	29.951	E	6	......	......
9	9 12	10 00	4 00	[13 12]	19 36	5.17	1.88	3.55	29.998	E	5	3.53	30.064	N	2	58.32	+ 2.20
	[21 36]	22 00	16 00	12 48	[19 12]	5.42	1.88	3.48	30.253	E	6	3.38	.388	E	2	......	......
10	10 00	11 00	4 30	[13 24]	19 18	5.25	1.00	3.32	.413	E	6	3.26	.414	NE	21	59.20	− 3.61
	[22 25]	23 00	17 00	13 00	[19 24]	5.48	1.33	3.21	.464	NE	29	3.21	.489	NE	23	......	......
11	10 51	11 30	5 00	[13 05]	19 00	5.67	0.58	3.39	.530	NE	25	3.56	.541	NE	16	59.97	− 9.42
	[23 18]	23 00	16 30	12 09	[18 05]	5.75	2.37	3.52	.523	NE	24	3.53	.520	NE	20	......	......
12	11 45	......	5 00	......	18 09	......	0.00	3.46	.394	NE	33	......	30.214	NE	34	60.52	−14.83
	......	12 00	18 00	[12 42]	[18 42]	6.35	1.13	3.47	.110	NE	23	3.37	......	......	...	......	......
13	[0 14]	0 00	6 00	12 15	18 15	6.29	0.25	3.67	.023	NE	9	3.57	30.040	NE	12	60.85	−19.42
	12 43	13 00	19 00	[12 46]	[18 46]	6.92	1.33	3.69	.092	NE	15	3.69	.026	E	3	......	......
14	[1 13]	1 00	6 00	12 17	17 17	6.25	0.25	3.61	.237	NE	6	3.66	.170	E	8	60.82	−22.75
	13 44	13 00	19 00	[11 47]	[17 47]	6.71	1.17	3.50	.320	NE	22	3.54	.290	NE	25	......	......
15	[2 16]	1 00	7 30	11 16	17 46	5.83	0.33	3.51	.372	NE	13	3.49	.337	NE	5	60.55	−24.29
	14 48	14 00	20 00	[11 44]	[17 44]	6.58	1.42	3.55	.391	NE	4.6	3.52	.432	NE	4	......	......
16	[3 20]	2 00	8 00	11 12	17 12	5.67	0.75	3.76	.169	NE	29	3.62	.292	NE	3	60.06	−24.50
	15 51	15 00	21 00	[11 40]	[17 40]	6.75	2.33	3.94	.284	NE	22	3.87	.204	NE	19	......	......
17	[4 21]	2 30	9 00	10 39	17 09	5.63	1.33	3.89	.391	NE	3	3.94	.337	NE	20	59.42	−22.85
	16 51	15 00	22 00	[10 39]	[17 39]	6.17	2.58	3.83	.420	SW	11	3.84	.427	E	5	......	......
18	[5 19]	3 30	10 00	10 39	17 09	4.92	2.09	3.89	.285	SW	11	3.88	.378	SW	6	58.73	−19.84
	17 47	16 30	23 00	[11 11]	[17 41]	5.92	2.88	3.91	30.137	NE	15	3.89	.212	E	9	......	......
19	[6 13]	4 00	11 00	10 13	17 13	4.58	2.54	3.95	......	......	...	3.95	30.121	NE	38	57.97	−15.77
	18 39	18 30	......	[12 17]	......	5.67	......	......	......	......	...	3.99	......	......	...	......	......
20	[7 03]	6 00	1 00	11 21	[18 47]	4.43	3.17	3.99	30.044	NE	35	3.93	29.966	NE	14	57.26	−11.02
	19 27	19 00	12 30	[11 57]	17 51	5.17	2.50	3.77	......	......	...	......	......	......	...	......	......
21	[7 50]	......	2 00	......	[18 57]	......	2.38	......	......	......	...	......	......	......	...	56.62	− 5.86
	20 12	......	......	......	......	......	......	......	......	......	...	......	......	......	...	......	......
Dec. 1	3 09	......	......	......	......	......	......	......	......	......	...	......	......	......	...	......	......
	[15 33]	......	......	......	......	......	......	......	......	......	...	......	......	......	...	......	......
2	3 57	......	......	......	......	......	......	......	......	......	...	......	......	......	...	......	......
	[16 21]	......	......	......	......	......	......	......	......	......	...	......	......	......	...	......	......
3	4 45	3 30	9 00	[11 09]	[16 39]	5.29	2.92	......	30.070	NE	2	......	30.132	NE	13	54.96	+18.31
	[17 08]	16 30	22 00	11 45	17 15	6.21	3.96	4.80	29.908	0	0	4.64	30.018	NE	7	......	......
4	5 31	4 00	10 00	[10 52]	[16 52]	5.67	3.79	5.17	.700	0	0	4.99	29.828	SW	1	55.57	+14.37
	[17 54]	17 00	23 30	11 29	17 59	6.92	4.67	5.41	29.553	E	7	5.30	.600	0	0	......	......
5	6 17	5 00	......	[11 06]	......	6.00	......	......	......	......	...	5.46	.578	E	7	56.36	+ 9.72
	[18 40]	18 00	12 00	11 43	[18 06]	6.77	4.33	5.36	29.687	W	26	5.35	29.877	SW	23	......	......
6	7 02	7 00	1 00	[12 20]	18 43	5.50	4.04	5.35	30.088	SW	32	5.06	30.246	SW	8	57.27	+ 4.51
	[19 25]	19 30	13 00	12 28	[18 20]	6.00	3.83	4.73	.398	SW	10	4.61	.455	NE	4	......	......
7	7 48	8 30	2 00	[13 05]	18 58	5.50	3.13	4.59	.382	NE	5	4.60	.335	NE	1	58.16	− 1.07
	[20 12]	21 00	14 00	13 12	[18 35]	6.25	3.67	4.60	.270	0	0	4.67	.246	S	3	......	......
8	8 36	9 30	3 00	[13 18]	19 12	6.25	2.88	4.76	30.208	NE	5	4.85	30.101	E	3	59.13	− 6.79
	[21 01]	21 00	15 00	12 24	[18 48]	6.96	3.67	4.88	29.957	0	0	4.96	29.788	NW	5	......	......
9	9 27	10 00	4 00	[12 59]	19 24	7.42	2.38	5.11	.610	E	1	5.19	.577	NE	3	60.04	−12.37
	[21 55]	22 00	16 00	12 33	[18 59]	7.50	3.75	5.30	.631	E	12	5.41	.646	0	0	......	......
10	10 23	11 00	4 00	[13 05]	18 33	8.00	2.67	5.48	.659	W	2	5.50	.562	NE	3	60.77	−17.39
	[22 53]	23 09	17 00	12 37	[19 05]	7.67	3.75	5.48	.441	E	3	5.55	29.424	E	4	......	......
11	11 23	......	5 00	......	18 37	......	2.33	5.56	.377	E	9	......	......	......	...	61.24	−21.39
	[23 55]	12 00	18 00	[13 07]	[19 07]	8.54	3.63	5.63	.309	NE	20	5.59	29.320	NE	17	......	......
12	......	0 00	7 00	12 37	19 37	8.08	2.21	5.69	.363	NE	12	5.65	.337	NE	17	61.39	−23.95
	12 22	12 00	18 30	[12 05]	[18 35]	8.85	3.63	5.74	.370	E	5	5.70	.384	E	4	......	......
13	[1 00]	0 30	7 00	12 08	18 38	8.13	2.50	5.86	.281	E	2	5.82	.314	NE	6	61.21	−24.74
	13 33	13 00	19 00	[12 00]	[18 00]	9.17	3.67	5.94	.395	NE	7	5.91	.326	E	2	......	......
14	[2 05]	1 00	7 00	11 27	17 27	8.50	2.33	5.77	.549	E	8	5.86	.480	E	2	60.72	−23.70
	14 37	14 00	20 00	[11 55]	[17 55]	8.71	3.42	5.60	29.583	E	2	5.65	29.589	E	5	......	......

Table for the reduction of tides, No. 1.—Continued.

Date.	Moon passes the meridian.—Mean time.	Mean time of— High water.	Mean time of— Low water.	Lunitidal interval. High water.	Lunitidal interval. Low water.	Height of— High water.	Height of— Low water.	Low water. Half-tide level.	Low water. Barometer reduced.	Low water. Wind. Direction.	Low water. Wind. Velocity.	High water. Half-tide level.	High water. Barometer reduced.	High water. Wind. Direction.	High water. Wind. Velocity.	Moon's— Parallax at noon.	Moon's— Declination at noon.
1871.	*h. m.*	*h. m.*	*h. m.*	*h. m.*	*h. m.*	*Feet.*	*Feet.*	*Feet.*	*Inches*			*Feet.*	*Inches.*			′	°
Dec. 15	[3 08]	2 00	8 00	11 23	17 23	7.79	2.67	5.70	29.538	E	14	5.66	29.600	E	5	60.00	—21.05
	15 38	14 00	21 00	[10 52]	[17 52]	8.83	3.58	5.47	29.868	NE	14	5.61	.635	E	24	......	....
16	[4 06]	3 00	9 00	11 22	17 22	6.96	2.33	4.92	30.150	NE	22	5.23	29.989	NE	14	59.13	—17.15
	16 33	16 00	22 00	[11 54]	[17 54]	7.25	2.71	4.53	.340	NE	31	4.68	30.272	NE	37	......	....
17	[4 59]	4 00	9 30	11 27	16 57	5.88	2.17	4.36	.296	NE	18	4.44	.331	N	30	58.21	—12.42
	17 24	16 00	23 00	[11 01]	[18 01]	6.55	2 92	4.38	30.002	NE	6	4.33	30.152	NE	18.5	......	....
18	[5 48]	5 00	11 00	11 36	17 36	5.46	3.00	4.56	29.726	0	0	4.48	29.852	NE	6	57.32	— 7.23
	18 11	18 00	....	[12 12]	....	6.58	......	......	......	......	...	4.67	.585	E	3	......	....
19	[6 33]	6 30	0 00	12 19	[18 12]	5.75	3.50	4.84	29.425	SW	22	5.02	.381	SW	17	50.51	— 1.87
	18 55	18 30	12 00	[11 57]	17 49	7.00	4.04	5.12	.384	SW	40	5.20	.505	SW	31	......	....
20	[7 17]	8 00	1 00	13 05	[18 27]	6.00	3.88	5.26	.607	SW	27	5.26	.712	S	10	55.80	+ 3.43
	19 38	20 00	14 00	[12 43]	19 05	6.71	4.33	5.24	.873	SW	7	5.29	.815	SW	7	......	....
21	[7 59]	9 00	2 30	13 22	[19 13]	6.25	4.00	5.32	.903	NW	3	5.30	.366	E	1	55.22	+ 8.48
	20 21	21 00	15 00	[13 01]	19 22	6.63	4.29	5.22	.912	E	6	5.19	.915	E	4	......	....
22	[8 43]	10 00	3 00	13 39	[19 01]	6.63	3.42	5.21	.861	E	3	5.18	.730	E	7	54.57	+13.12
	21 05	22 00	16 00	[13 17]	19 39	6.58	4.08	5.17	.607	NE	28	5.18	.480	NE	33	......	....
23	[9 27]	11 00	4 00	13 55	[19 17]	6.71	3.38	5.19	.342	NE	29	5.25	.267	NE	10	54.41	+17.18
	21 50	22 00	16 00	[12 33]	18 55	7.00	4.13	5.31	.196	NE	18	5.40	.198	E	14	......	....
24	[10 13]	11 00	5 00	13 10	[19 33]	7.42	3.42	5.46	.293	NE	10	5.42	.412	0	0	54.16	+20.51
	22 37	23 00	17 00	[12 47]	19 10	6.88	3.92	5.37	.521	SE	14	5.36	29.581	SW	14	......	....
25	11 01	......	5 00	....	[18 47]	......	3.08	5.37	.616	NE	1	......	......	......	...	54.02	+22.95
	23 25	12 00	18 00	13 23	19 23	7.71	3.75	5.43	.535	NE	15	5.39	29.57..	E	3	......	....
26	[11 51]	0 30	6 30	[13 29]	[19 29]	7.21	3.00	5.41	.449	E	12	5.41	.411	NE	14	53.95	+24.38
	......	13 00	19 00	13 35	19 35	7.67	3.75	5.39	.540	E	4	5.40	.489	NE	3	......	....
27	0 15	0 30	7 00	[12 39]	[19 09]	7.17	2.96	5.35	.764	E	9	5.38	.588	E	4	53.98	+24.71
	[12 40]	13 00	19 00	12 45	18 45	7.63	3.58	5.21	.852	E	7	5.29	.81.	E	5	......	....
28	1 05	0 30	7 00	[11 50]	[18 20]	6.83	2.63	5.20	.861	E	3	5.18	.874	SE	3	54.09	+23.91
	[13 30]	13 30	20 00	12 25	18 55	7.75	3.63	5.18	.794	NE	7	5.20	.794	S	3	......	....
29	1 54	2 00	7 00	[12 30]	[17 30]	6.75	2.54	5.19	.714	NE	5	5.17	.789	NE	7	54.29	+22.04
	[14 18]	14 00	20 00	12 06	18 06	7.79	3.75	5.25	.610	NW	10	5.21	.644	SE	5	......	....
30	2 42	2 00	8 00	[11 42]	[17 42]	6.79	2.79	5.20	.555	NE	12	5.25	.558	E	12	54.59	+19.18
	[15 05]	15 00	21 00	12 18	18 18	7.58	3.58	5.15	.606	E	6	5.16	.607	E	12	......	....
31	3 28	3 00	8 00	[11 55]	[16 55]	6.63	2.88	5.14	.628	E	11	5.15	.616	NE	3	55.01	+15.46
	[15 51]	15 00	21 30	11 32	18 02	7.46	3.58	5.13	29.617	E	4	5.12	29.589	E	8	......	....
1872.																	
Jan. 1	4 13	3 00	9 00	[11 09]	[17 09]	6.50	3.13	5.15	29.59.	E	2	5.15	29.611	E	4	55.53	+11.05
	[16 35]	16 00	22 30	11 47	18 17	7.33	3.75	5.21	.624	E	6	4.20	.683	E	3	......	....
2	4 57	4 00	9 45	[11 25]	17 10	6.42	3.58	5.23	.644	0	0	5.24	.637	NE	6	56.19	+ 6.09
	[17 19]	16 30	23 00	11 33	18 03	7.13	3.88	5.24	.605	NE	3	5.23	.624	E	1	......	....
3	5 42	4 45	10 35	[11 23]	[17 16]	6.22	3.88	5.16	.588	0	0	5.23	.591	NE	7	56.95	+ 0.75
	[18 04]	17 00	23 30	11 18	17 48	6.77	3.64	5.16	.624	NE	3	5.11	.606	E	2	......	....
4	6 27	6 00	11 30	[11 56]	[17 26]	6.13	4.31	5.21	29.630	E	2	5.21	.571	NE	13	57.81	— 4.76
	[18 51]	18 35	....	12 08	....	6.75	......	......	......	......	...	5.21	.646	E	4	......	....
5	7 15	7 00	1 00	[12 09]	18 33	6.13	3.67	5.20	29.675	SE	4	5.16	.697	0	0	58.73	—10.23
	[19 40]	19 00	13 00	11 45	[18 09]	6.50	4.21	5.09	.702	SW	5	5.08	.729	0	0	......	....
6	8 06	8 35	2 00	[12 55]	18 45	6.31	3.39	5.11	.664	SE	4	5.14	.687	0	0	59.63	—15.35
	[20 34]	21 00	14 35	12 54	[18 55]	6.67	4.29	5.11	.790	SE	3	5.10	.894	SE	3	......	....
7	9 02	9 30	3 00	[12 56]	18 54	6.63	2.97	5.10	.920	NE	7	5.06	.976	NE	7	60.43	—19.74
	[21 32]	21 30	15 45	12 28	[19 11]	6.73	3.96	5.04	.928	E	7	5.14	.898	0	0	......	....
8	10 03	10 30	4 00	[12 58]	18 58	7.65	2.73	5.26	.843	E	2	5.30	.780	E	5	61.03	—22.95
	[22 35]	22 30	16 30	12 27	[18 58]	7.13	3.88	5.31	.787	SE	3	5.46	29.766	......	...	......	....
9	11 08	....	5 00	....	18 57	......	2.46	5.61	.688	E	1	......	......	......	...	61.35	—24.59
	[23 41]	12 00	18 00	[13 25]	[19 25]	9.08	3.67	5.69	.601	E	4	5.64	29.669	E	1	......	....
10	......	......	6 00	12 52	18 52	7.56	2.47	5.54	.512	NE	20	5.63	.488	NE	23	61.35	—24.40
	12 14	12 00	18 00	[12 19]	[18 19]	8.56	3.46	5.51	.549	NE	13	5.53	.543	NE	14	......	....
11	[0 46]	......	6 00	11 46	17 46	7.71	2.13	5.46	.654	NE	8	5.49	.529	NE	30	61.01	—22.40
	13 18	13 00	19 00	[12 14]	[18 14]	8.77	3.00	5.36	.715	NE	7	5.40	.623	NE	2	......	....
12	[1 48]	1 00	7 00	11 42	17 42	7.67	1.92	5.25	.645	NE	10	5.30	.687	NE	25	60.38	—18.88
	14 18	14 00	20 00	[12 12]	[18 12]	8.50	2.85	5.10	.673	NE	4	5.17	.627	W	1	......	....
13	[2 46]	2 00	8 00	11 42	17 42	7.17	1.83	5.04	.776	0	0	5.07	.722	NE	1	59.54	—14.28
	15 13	15 00	21 00	[12 14]	[18 14]	8.38	2.75	5.14	.719	NE	22	5.06	.771	NE	7	......	....
14	[3 38]	3 00	9 00	11 47	17 47	7.42	2.21	5.17	29.701	NE	24	5.16	29.626	NE	36	58.55	— 9.03

Table for the reduction of tides, No. 1.—Continued.

Date.	Moon passes the meridian.—Mean time.	Mean time of—		Lunitidal interval.		Height of—		Low water.				High water.				Moon's—	
										Wind.				Wind.			
		High water.	Low water.	High water.	Low water.	High water.	Low water.	Half-tide level.	Barometer reduced.	Direction.	Velocity.	Half-tide level.	Barometer reduced.	Direction.	Velocity.	Parallax at noon.	Declination at noon.
1872.	h. m.	h. m.	h. m.	h. m.	h. m.	Feet.	Feet.	Feet.	Inches.			Feet.	Inches.			′	°
Jan. 14	16 03	15 00	21 30	[11 22]	[17 52]	8.17	3.00	5.15	29.670	E	6	5.15	29.733	SW	5	......	....
15	[4 27]	4 00	10 00	11 57	17 57	7.00	2.65	5.08	.758	E	11	5.15	.687	NE	12	57.61	− 3.51
	16 50	15 00	22 00	[10 33]	[17 33]	7.73	2.92	4.95	.860	SW	3	5.00	.773	E	5	......	....
16	[5 13]	4 00	10 00	11 10	17 10	6.42	2.83	4.75	.939	NE	9	4.86	.902	NW	2	56.60	+ 1.98
	17 35	16 30	23 30	[11 17]	[18 17]	6.83	2.92	4.66	.964	SW	4	4.67	.982	NE	18	......	....
17	[5 57]	5 00	11 00	11 25	17 25	5.83	3.35	4.57	30.017	W	1	4.65	29.990	NW	7	55.88	+ 7.22
	18 19	17 30	....	[11 33]	....	6.21	......	......	......	......	....	4.49	30.055	SW	4	......	....
18	[6 41]	6 00	0 00	11 41	[18 03]	5.25	2.88	4.43	30.146	SW	5	4.35	.220	SW	12	55.21	+12.04
	19 03	18 00	12 00	[11 19]	17 41	5.48	3.42	4.26	.277	SW	9	4.22	.319	SW	1	......	....
19	[7 25]	8 00	1 00	12 57	[18 19]	4.96	2.88	4.23	.315	E	17	4.26	.279	NE	20	54.69	+16.28
	19 47	20 00	13 30	[12 35]	18 27	5.46	3.75	4.30	30.191	NE	19	4.44	30.089	NE	14	......	....
20	[8 10]	9 00	2 00	13 13	[18 35]	5.75	3.21	4.59	29.950	0	0	4.67	29.711	SW	12	54.32	+19.80
	20 34	21 00	15 00	[12 50]	19 13	5.71	4.13	4.73	.747	SW	4	4.83	.763	SE	3	......	....
21	[8 57]	10 30	3 00	13 56	[18 50]	6.33	3.45	4.90	.762	NE	2	4.96	.800	SE	4	54.09	+22.46
	21 21	22 00	16 00	[13 03]	19 26	6.13	4.13	5.02	.790	SW	5	5.15	.797	SW	1	......	....
22	[9 46]	11 15	4 00	13 54	[19 03]	7.27	3.55	5.31	.681	E	2	5.42	.572	W	2	53.99	+24.14
	22 11	23 00	17 00	[13 14]	19 39	6.60	4.50	5.46	.576	W	5	5.49	29.609	W	6	......	....
23	[10 36]	....	5 00	....	[19 14]	......	3.38	5.48	.659	0	0	......	......	......	....	54.02	+24.74
	23 00	12 00	18 00	13 49	19 49	*7.75	3.96	5.32	.726	W	1	5.42	29.791	SE	2	......	....
24	[11 25]	....	6 00	[13 24]	[19 24]	6.67	3.29	5.54	.518	NW	12	5.46	.628	0	0	54.13	+21.21
	23 50	12 30	18 00	13 30	19 00	8.10	4.25	5.83	.390	N	51	5.68	.406	N	30	......	....
25	....	0 30	6 00	[13 05]	[18 35]	7.50	3.63	5.92	.473	N	7	5.91	.406	N	25	54.33	+22.48
	[12 15]	13 00	19 00	13 10	19 10	8.42	4.00	5.80	.753	SE	2	5.88	.680	N	20	......	....
26	0 39	1 00	7 00	[12 45]	[18 45]	7.46	3.02	5.58	.907	SE	5	5.68	.819	NE	2	54.60	+19.91
	[13 03]	13 30	20 00	12 51	19 21	8.08	3.54	5.31	29.968	S	3	5.46	.943	SW	2	......	....
27	1 26	1 30	7 00	[12 27]	[17 57]	6.96	2.28	5.01	30.013	N	5	5.16	29.966	NE	1	54.97	+16.34
	[13 49]	14 00	29 00	12 34	18 34	7.63	2.83	4.83	.121	SE	4	4.89	30.067	NW	2	......	....
28	2 12	2 00	8 00	[12 11]	[18 11]	6.69	2.08	4.73	.114	SW	3	4.78	.113	S	4	55.34	+12.03
	[14 34]	14 15	20 00	12 03	17 48	7.42	2.67	4.83	30.010	SE	3	4.74	30.100	NW	2	......	....
29	2 56	2 45	8 00	[12 11]	[17 26]	6.90	2.58	5.10	29.753	E	2	4.96	29.869	S	6	55.81	+ 7.17
	[15 18]	15 00	21 00	12 04	18 04	8.00	3.21	5.34	.599	SW	2	5.21	.668	SW	2	......	....
30	3 40	3 00	9 00	[11 42]	[17 42]	7.25	3.21	5.41	.604	NE	1	5.40	.594	NE	12	56.36	+ 1.93
	[16 02]	15 00	21 45	11 20	18 05	7.92	3.33	5.37	.669	NE	16	5.39	.630	NE	19	......	....
31	4 24	3 45	9 30	[11 43]	[17 28]	6.96	3.33	5.17	.712	NE	1	5.29	.672	NE	11	56.97	− 3.49
	[16 47]	16 00	22 00	11 36	17 36	7.17	3.10	5.00	30.834	0	0	5.07	.744	0	0	......	....
Feb. 1	5 10	4 30	10 00	[11 43]	[17 13]	6.42	3.31	4.86	29.811	NE	32	4.94	.870	NE	32	57.56	− 8.88
	[17 34]	16 30	*23 00	11 20	17 50	6.67	*3.00	4.88	.781	NE	24	4.83	.787	NE	37	......	....
2	5 58	*5 15	*11 00	[11 41]	[17 26]	*6.30	*3.79	4.94	29.736	E	12	4.92	.716	NE	25	58.34	−13.98
	[18 24	17 45	....	11 47	....	6.54	......	......	......	......	....	4.97	.720	E	6	......	....
3	6 50	6 15	0 00	[11 51]	18 02	6.33	3.25	5.07	29.696	E	1	5.16	.680	E	4	59.10	−18.30
	[19 18	18 45	12 00	11 55	[17 36]	6.52	4.55	5.21	.676	E	5	5.27	.677	E	2	......	....
4	7 46	8 00	1 00	[12 42]	18 10	6.42	3.65	5.30	.689	E	3	5.31	.726	E	5	59.78	−22.01
	[20 16]	20 00	14 00	12 14	[18 42	6.50	4.67	5.27	29.768	E	5	5.24	29.934	E	3	......	....
5	8 47	9 00	2 30	[12 44]	18 44	6.50	3.33	5.20	30.020	E	5	5.14	30.067	E	4	60.35	−24.22
	[21 19]	21 00	15 00	12 13	[18 44]	6.33	4.31	5.07	.091	E	5	5.08	.142	SE	4	......	....
6	9 51	10 00	4 00	[12 41	19 13	6.96	2.96	5.05	.170	E	3	4.98	.201	SE	1	60.72	−24.78
	[22 24	22 00	16 45	12 09	[19 26]	6.31	3.67	4.91	.186	E	5	4.92	.205	0	0	......	....
7	10 55	11 15	5 00	[12 51]	19 09	7.50	2.46	4.94	30.143	E	3	4.97	30.072	SE	3	60.85	−23.55
	[23 26]	23 00	17 30	12 05	[19 06]	7.00	3.29	5.04	29.946	S	1	5.06	20.881	NE	4	......	....
8	11 57	....	6 00	....	19 05	......	2 31	5.04	.790	NE	23	......	......	......	...	60.67	−20.66
	....	12 15	18 00	[12 49]	[18 34]	7.79	2.81	5.06	.729	0	0	5.02	29.816	SE	6	......	....
9	[0 27]	0 00	6 15	12 03	18 18	7.35	2.31	5.22	.537	NE	14	5.16	.708	E	2	60.24	−16.43
	12 56	13 00	19 15	[12 33]	[18 48]	8.58	2.50	5.23	.549	NE	3	5.10	.501	NE	18	......	....
10	[1 23]	1 00	7 00	12 04	18 04	7.71	2.00	5.27	.522	E	2	5.22	.561	NE	5	59.56	−11.29
	13 49	13 30	19 45	[12 07]	[18 22]	8.75	2.73	5.26	.447	E	2	5.29	.462	SE	1	......	....
11	[2 14]	2 00	8 00	12 11	18 11	7.67	1.83	5.15	.672	NE	7	5.21	.636	E	4	58.72	− 5.68
	14 39	14 00	20 15	[11 46]	[18 01]	8.50	2.50	5.15	.641	NE	40	5.12	.624	NE.	44	......	....
12	[3 03]	2 45	8 15	12 06	17 36	7.65	2.08	5.05	.817	NE	3	5.13	.678	NE	14	57.80	+ 0.05
	15 26	14 45	21 00	[11 42]	[17 57]	8.08	2.33	4.91	29.968	E	3	4.97	29.867	E	2	......	....
13	[3 49]	3 00	9 00	11 34	17 34	7.13	2.17	4.81	30.092	SW	20	4.85	30.037	SW	10	56.89	+ 5.58
	16 12	15 15	22 00	[11 26]	[18 11]	7.50	2.56	4.73	30.054	S	2	4.76	30.103	E	4	......	....

* Interpolated.

Table for the reduction of tides, No. 1.—Continued.

Date.	Moon passes the meridian.—Mean time.	Mean time of—		Lunitidal interval.		Height of—		Low water.				High water.				Moon's—	
										Wind.				Wind.			
		High water.	Low water.	High water.	Low water.	High water.	Low water.	Half-tide level.	Barometer reduced.	Direction.	Velocity.	Half-tide level.	Barometer reduced.	Direction.	Velocity.	Parallax at noon.	Declination at noon.
1872.	h. m.	h. m.	h. m.	h. m.	h. m.	Feet.	Feet.	Feet.	Inches.			Feet.	Inches.			′	°
Feb. 14	[4 35]	4 00	9 30	11 48	17 18	6.54	2.46	4.61	30.205	E	6	4.69	30.164	E	10	53.06	+10.70
	16 57	16 00	22 30	[11 25]	[17 55]	6.88	2.61	4.62	.201	E	4	4.57	.191	0	0	......	......
15	[5 20]	4 30	10 00	11 33	17 03	6.13	3.31	4.81	30.024	E	1	4.72	30.154	E	1	55.35	+15.24
	17 42	17 00	23 00	[11 40]	[17 40]	6.83	3.31	4.83	29.943	E	7	4.86	29.753	NW	3	......	......
16	[6 05]	5 00	11 00	11 18	17 18	5.89	3.77	4.73	30.237	S	3	4.83	30.155	NE	12	54.78	+19.04
	18 29	17 15	23 45	[11 10]	[17 40]	5.88	3.46	4.82	30.118	0	0	4.73	30.216	0	0	......	......
17	[6 52]	7 00	......	12 31	......	5.71	......	......	......	......	...	5.02	29.871	SW	6	54.39	+21.98
	19 16	19 00	12 15	[12 08]	17 46	6.50	4.72	5.27	29.652	SW	17	5.50	30.091	SW	14	......	......
18	[7 40]	8 00	2 00	12 44	[19 08]	6.50	4.88	5.73	28.933	SW	7	5.77	.096	SW	7	54.16	+23.94
	20 05	19 15	14 00	[11 35]	18 44	6.13	5.38	5.66	29.326	SW	5	5.57	30.473	W	5	......	......
19	[8 30]	10 00	3 15	13 55	[19 35	6.25	4.42	5.43	.630	SW	19	5.27	29.822	SW	7	54.10	+24.83
	20 55	22 00	16 15	[13 30]	20 10	5.83	4.44	5.15	.801	W	2	5.17	.628	NE	4	......	......
20	[9 20]	11 00	4 15	14 05	[19 45]	7.00	3.79	5.26	.531	SE	4	5.31	.514	0	0	54.18	+24.60
	21 45	22 00	17 00	[12 40]	20 05	6.25	4.42	5.33	.630	NE	11	5.24	29.801	NE	18	......	......
21	[10 10]	11 00	5 00	13 15	[19 40]	6.58	3.50	5.04	29.897	NE	30	4.82	30.003	NE	47	54.38	+23.22
	22 34	23 00	18 00	[12 50	[20 15	5.69	3.25	4.62	30.102	NE	....	4.49	30.142	NE	....	......	......
22	[10 58]	......	5 00	......	[18 50]	......	2.42	4.46	......	......	....	......	......	......	....	54.69	+20.79
	23 22	12 00	18 00	13 26	19 26	6.67	2.89	4.50	30.129	0	0	4.47	......	......	....	......	......
23	[11 45]	0 00	6 15	[13 02]	[19 17]	6.17	2.17	4.53	.243	0	0	4.51	30.218	0	0	55.06	+17.39
	......	12 30	18 15	13 08	18 53	7.00	2.71	4.56	.136	NW	4	4.53	.162	0	0	......	......
24	0 08	0 15	6 30	[12 30]	[18 45]	6.33	2.22	4.66	30.108	NE	13	4.61	30.195	0	0	55.49	+13.18
	[12 31]	13 00	19 00	12 52	18 52	7.38	2.72	4.93	29.847	NE	14	4.76	29.944	NE	12	......	......
25	0 54	1 00	7 00	[12 29]	[18 29]	7.13	2.79	5.39	.438	0	0	5.15	.691	0	0	55.95	+ 8.33
	[13 16]	13 30	19 30	12 36	18 36	8.58	3.38	5.54	.334	E	4	5.52	.245	S	4	......	......
26	1 38	1 30	7 30	[12 14]	[18 14]	7.54	2.58	5.07	29.810	E	4	5.38	29.504	SE	2	56.43	+ 3.06
	[14 00]	14 00	20 00	12 22	18 22	7.46	2.00	4.58	30.269	NE	30	4.78	30.082	NE	9	......	......
27	2 23	2 15	8 00	[12 15]	[18 00]	6.67	1.85	4.35	.302	E	3	4.46	.307	NE	8	56.93	— 2.42
	[14 45]	14 15	20 45	11 52	18 22	7.17	1.46	4.22	.442	NE	30	4.25	.300	NE	17	......	......
28	3 08	2 30	8 30	[11 45]	[17 45]	6.42	1.79	4.15	.482	NE	12	4.17	.551	N	4	57.41	— 7.89
	[15 31]	15 00	21 00	11 52	17 52	6.83	1.67	4.19	.347	NE	20	4.15	.434	NE	9	......	......
29	3 55	3 00	9 15	[11 29]	[17 44]	6.25	2.21	4.16	30.189	NE	24	4.17	30.301	NE	20	57.91	—13.09
	16 20	......	......	......	......	......	......	......	......	......	....	......	......	......	....	......	......
Mar. 1	4 46	......	......	......	......	......	......	......	......	......	....	......	......	......	....	58.40	—17.71
	[17 13]	......	......	......	......	......	......	......	......	......	....	......	......	......	....	......	......
2	5 40	......	......	......	......	......	......	......	......	......	....	......	......	......	....	58.87	—21.45
	[18 08]	......	......	......	......	......	......	......	......	......	....	......	......	......	....	......	......
3	6 37	......	......	......	......	......	......	......	......	......	....	......	......	......	....	59.29	—23.97
	[19 07]	......	......	......	......	......	......	......	......	......	....	......	......	......	....	......	......
4	7 38	......	......	......	......	......	......	......	......	......	....	......	......	......	....	59.65	—24.99
	[20 09]	......	......	......	......	......	......	......	......	......	....	......	......	......	....	......	......
5	8 40	......	......	......	......	......	......	......	......	......	....	......	......	......	....	59.89	—24.35
	[21 11]	......	......	......	......	......	......	......	......	......	....	......	......	......	....	......	......
6	9 41	10 30	4 00	[13 19]	19 20	6.08	2.88	......	29.886	NE	21	......	29.939	NE	16	59.97	—22.07
	[22 11	23 00	16 45	13 19	[19 34]	5.25	3.40	4.29	30.040	NE	5	4.21	30.150	NE	28	......	......
7	10 40	11 15	5 00	[13 04]	19 19	6.33	2.00	4.10	.130	NE	13	3.94	.138	NE	13	59.85	—18.36
	[23 08]	23 30	18 00	12 50	[19 49]	5.08	2.25	3.84	.153	NE	26	3.76	30.187	NE	28	......	......
8	11 35	......	5 30	......	18 50	......	1.42	3.65	.341	NE	22	......	......	......	....	59.54	—13.56
	......	12 15	18 15	[13 07]	[19 07]	6.25	1.50	3.74	.403	E	6	3.68	30.396	0	0	......	......
9	[0 01]	0 00	6 00	12 25	18 25	6.04	0.92	3.75	.333	0	0	3.74	.384	E	6	59.03	— 8.07
	12 26	12 30	19 00	[12 29]	[18 59]	6.75	1.08	3.65	30.094	E	1	3.72	30.200	0	0	......	......
10	[0 51]	1 00	6 45	12 34	18 19	6.27	0.08	3.72	29.909	NE	16	3.61	29.952	NE	12	58.37	— 2.27
	13 15	13 15	19 00	[12 24]	[18 09]	7.30	1.38	3.97	29.841	NE	35	3.78	.819	NE	25	......	......
11	[1 39]	1 15	7 45	12 00	18 30	6.50	1.33	4.05	30.033	NE	22	4.09	.883	NE	36	57.62	+ 3.50
	14 02	14 00	20 00	[12 21]	[18 21]	7.00	1.38	4.20	29.848	NE	26	4.11	.973	SE	6	......	......
12	[2 25]	2 00	8 00	11 58	17 58	6.98	1.58	4.32	.591	NE	48	4.25	.652	NE	17	56.83	+ 8.95
	14 48	14 30	20 15	[12 05]	[17 50]	7.17	1.75	4.31	.682	NE	18	4.31	.485	NE	48	......	......
13	[3 11]	3 00	8 30	12 12	17 42	6.54	2.00	4.26	29.836	E	4	4.32	.767	E	7	56.08	+13.87
	15 34	15 30	21 15	[12 19]	[18 04]	6.79	1.71	4.14	30.012	E	7	4.20	29.910	E	4	......	......
14	[3 57	3 30	9 15	11 56	17 41	6.04	2.04	3.98	.114	0	0	4.04	30.109	E	4	55.40	+18.06
	16 21	15 00	21 30	[11 03]	[17 33]	6.00	2.00	4.00	.024	0	0	3.97	.078	0	0	......	......
15	[4 45]	4 00	10 00	11 39	17 39	5.67	2.67	3.75	.059	SE	1	3.88	.008	S	2	54.87	+21.37
	17 09	16 00	22 30	[11 15]	[17 45]	4.35	2.63	3.89	30.075	0	0	3.81	.070	E	2	......	......
16	[5 33]	4 30	10 30	11 21	17 21	5.50	3.50	4.31	29.964	NE	7	4.12	30.005	NE	30	54.48	+23.69

Table for the reduction of tides, No. 1.—Continued.

Date.	Moon passes the meridian.—Mean time.	Mean time of—		Lunitidal interval.		Height of—		Low water.				High water.				Moon's—	
		High water.	Low water.	High water.	Low water.	High water.	Low water.	Half-tide level.	Barometer reduced.	Wind. Direction.	Wind. Velocity.	Half-tide level.	Barometer reduced.	Wind. Direction.	Wind. Velocity.	Parallax at noon.	Declination at noon.
1872.	h. m.	h. m.	h. m.	h. m.	h. m.	Feet.	Feet.	Feet.	Inches.			Feet.	Inches.			′	°
Mar. 16	17 58	16 30	23 00	[10 57]	[17 27]	5.33	3.21	4.34	29.941	E	1	4.35	29.941	NE	10	......	......
17	[6 22]	5 30	11 45	11 32	17 47	5.21	3.75	4.21	30.168	S	1	4.29	29.997	E	3	54.26	+24.92
	18 47	17 30	......	[11 08]	......	4.63	......	......	......	......	....	4.09	30.293	W	2	......	......
18	[7 12]	7 30	0 00	12 43	[17 38]	4.58	3.08	3.99	30.368	......	....	3.90	.401	E	4	54.22	+25.02
	19 37	20 30	14 30	[13 18]	19 43	4.04	3.63	3.86	.348	NW	1	3.94	.299	SE	5	......	......
19	[8 02]	9 45	2 45	14 08	[19 33]	4.96	3.31	4.00	.175	0	0	4.08	.137	0	0	54.35	+23.99
	20 27	21 45	16 00	[13 43]	20 23	4.58	3.75	4.14	30.108	E	2	4.22	.046	0	0	......	......
20	[8 51]	10 15	3 30	13 48	[19 28]	5.67	3.25	4.28	29.841	NE	29	4.30	.007	NE	30	54.62	+21.85
	21 15	22 15	16 30	[13 24]	20 03	4.97	3.50	4.26	29.979	NE	37	4.13	.125	NE	30	......	......
21	[9 39]	11 00	4 30	13 45	[19 39]	5.33	2.54	3.93	30.295	NE	26	3.79	.351	NE	35	55.03	+18.71
	22 02	23 00	17 15	[13 21]	20 00	5.13	2.25	3.73	.299	NE	48	3.67	30.399	NE	39	......	......
22	[10 25]	......	5 00	......	[19 21]	......	1.88	3.63	.534	NE	35	......	29.543	NE	5	55.53	+14.69
	22 48	12 00	17 30	13 58	19 28	5.50	1.81	3.59	30.592	NE	2	3.61	......	......	....	......	......
23	[11 11]	0 00	5 45	[13 35]	[19 20]	5.42	1.42	3.63	......	......	....	3.60	......	......	....	56.09	+ 9.95
	23 33	12 00	18 00	13 12	19 12	6.04	1.50	3.64	......	......	....	3.63	......	......	....	......	......
24	[11 56]	0 00	6 00	[12 49]	[18 49]	5.75	1.13	3.61	30.667	E	5	3.63	......	......	....	56.67	+ 4.68
	......	12 30	18 00	12 57	18 27	6.27	1.06	3.45	.686	E	2	3.57	30.622	SE	4	......	......
25	0 18	0 45	6 30	[12 49]	[18 34]	5.92	0.00	3.30	.788	SE	3	3.33	.791	NE	1	57.24	— 0.91
	[12 41]	13 00	18 45	12 42	18 27	6.44	0.65	3.54	.686	E	2	3.32	.719	E	2	......	......
26	1 04	1 00	7 00	[12 19]	[18 19]	6.50	1.13	3.80	.427	E	2	3.73	.526	E	4	57.76	— 6.55
	13 28	13 15	19 15	12 11	18 11	6.88	0.75	3.80	.446	E	5	3.81	.369	0	0	......	......
27	1 52	1 30	7 45	[12 02]	[18 17]	6.50	1.04	3.70	.513	0	0	3.75	.481	0	0	58.22	—12.00
	[14 17]	14 00	19 45	12 08	17 53	6.58	0.63	3.75	.475	0	0	3.70	.498	E	1	......	......
28	2 42	2 00	8 00	[11 43]	[17 43]	6.63	1.33	3.82	.415	0	0	3.79	.437	0	0	58.59	—16.91
	[15 08]	14 00	20 00	11 18	17 18	6.58	0.88	3.78	.406	E	3	3.84	.397	0	0	......	......
29	3 35	2 30	8 45	[11 22]	[17 37]	6.50	1.73	3.94	.417	0	0	3.91	.415	0	0	58.87	—20.94
	[16 03]	14 15	20 40	10 40	17 05	6.50	1.17	3.98	.409	SE	4	3.94	.398	E	2	......	......
30	4 32	3 00	9 15	[10 57]	[17 12]	6.25	2.25	3.88	.398	E	5	3.94	.408	E	3	59.08	—23.79
	[17 02]	15 00	21 45	10 28	17 13	5.67	1.58	3.82	.397	0	0	3.85	.383	SE	2	......	......
31	5 32	4 00	10 00	[10 58]	[16 58]	5.58	2.67	3.77	.369	0	0	3.79	.415	0	0	59.22	—25.15
	[18 02]	16 00	22 30	10 28	16 58	5.00	2.08	3.78	.308	SE	2	3.78	.323	SE	3	......	......
Apr. 1	6 33	5 00	11 00	[10 58]	[16 58]	5.14	3.13	3.76	30.418	NW	4	3.78	.360	SE	2	59.27	—24.90
	[19 03]	17 30	......	10 57	......	4.54	......	......	......	......	....	3.81	.451	NW	6	......	......
2	7 34	7 35	0 00	[12 32]	17 27	5.08	2.46	3.82	30.457	0	0	3.83	.447	SE	4	59.25	—23.04
	[20 03]	19 30	13 00	11 56	[17 57]	4.48	3.29	3.85	.375	0	0	3.93	.303	NW	4	......	......
3	8 31	8 45	1 30	[12 42]	17 56	5.50	2.67	3.96	.237	E	3	4.03	.184	0	0	59.14	—19.76
	[20 59]	21 00	15 15	12 29	[19 12]	5.17	3.13	4.09	.090	E	4	4.10	.046	E	5	......	......
4	9 26	10 00	3 15	[13 01]	18 44	6.19	2.50	4.16	30.018	0	0	4.13	30.005	NW	2	58.92	—15.53
	[21 52]	22 00	16 15	12 34	[19 16]	5.67	2.42	4.15	29.982	E	2	4.15	29.974	0	0	......	......
5	10 17	10 30	4 00	[12 38]	18 34	6.58	2.13	4.15	.980	0	0	4.17	.993	NW	3	58.60	—10.11
	[22 41]	23 00	17 00	12 43	[19 08]	6.31	2.00	4.20	.945	0	0	4.20	.942	0	0	......	......
6	11 05	11 15	4 45	[12 34]	18 28	6.97	1.71	4.20	.919	NW	2	4.20	29.927	E	4	58.21	— 4.44
	[23 29]	......	17 45	......	[19 04]	......	1.60	4.25	.912	SE	4	......	......	......	....	......	......
7	11 52	0 00	5 45	12 55	18 40	6.78	1.63	4.29	29.962	SE	6	4.28	29.916	E	5	57.64	+ 1.36
	......	12 00	18 15	[12 31]	[18 46]	7.29	1.29	4.23	30.086	NE	8	4.26	30.009	SE	5	......	......
8	[0 15]	0 30	6 30	12 38	18 38	6.92	1.25	4.10	.227	SE	3	4.17	.172	E	6	57.04	+ 6.99
	12 38	13 00	19 00	[12 45]	[18 45]	7.13	0.96	4.04	.197	NW	2	4.06	.210	SE	3	......	......
9	[1 01]	1 00	7 15	12 22	18 37	6.90	1.08	3.95	.116	0	0	3.98	.161	NW	1	56.42	+12.20
	13 25	13 15	19 15	[12 14]	[18 14]	6.83	1.00	4.02	.018	E	2	3.96	.052	0	0	......	......
10	[1 48]	2 00	7 30	12 35	18 05	6.96	1.50	4.04	.060	SE	4	4.06	.027	0	0	55.80	+16.76
	14 12	14 00	20 00	[12 12]	[18 12]	6.71	0.96	3.97	.053	SE	2	4.00	.067	E	2	......	......
11	[2 36]	2 15	8 15	12 03	18 03	6.64	1.65	3.93	.059	0	0	3.94	.061	E	4	55.25	+20.48
	15 00	14 15	20 15	[11 39]	[17 39]	6.33	1.29	3.97	.021	E	7	3.95	.019	E	4	......	......
12	[3 24]	3 00	9 00	12 00	18 00	6.40	2.11	4.00	30.017	SE	2	3.98	30.042	E	1	54.78	+23.22
	15 49	15 00	21 00	[11 36]	[17 36]	5.96	1.75	4.03	29.950	SE	4	4.01	29.949	SE	0.3	......	......
13	[4 14]	3 30	9 15	11 41	17 26	6.08	2.58	4.09	.886	0	0	4.03	.909	E	3	54.45	+24.87
	16 39	15 15	21 15	[11 01]	[17 01]	5.65	2.38	4.20	.854	0	0	4.01	.852	W	2	......	......
14	[5 04]	4 00	10 00	11 21	17 21	5.85	3.29	4.20	29.957	E	3	4.23	29.996	E	3	54.26	+25.36
	17 29	16 00	22 00	[10 56]	[16 56]	5.15	2.67	4.10	30.109	E	3	4.17	30.025	E	4	......	......
15	[5 54]	5 00	11 00	11 31	17 31	5.27	3.38	3.95	.268	NW	2	4.03	.181	SE	4	54.25	+24.69
	18 19	16 30	22 45	[10 36]	[16 51]	4.47	2.67	3.80	30.388	W	1	3.78	.319	SW	8	......	......
16	[6 44]	6 30	......	12 11	......	4.69	......	......	......	......	....	3.73	.448	E	5	54.42	+22.92
	19 08	18 30	12 45	[11 46]	18 26	4.00	3.35	3.73	30.430	E	7	3.81	30.372	N	4	......	......

Table for the reduction of tides, No. 1.—Continued.

Date.	Moon passes the meridian.—Mean time.	Mean time of— High water.	Mean time of— Low water.	Lunitidal interval. High water.	Lunitidal interval. Low water.	Height of— High water.	Height of— Low water.	Low water. Half-tide level.	Low water. Barometer reduced.	Low water. Wind. Direction.	Low water. Wind. Velocity.	High water. Half-tide level.	High water. Barometer reduced.	High water. Wind. Direction.	High water. Wind. Velocity.	Moon's— Parallax at noon.	Moon's— Declination at noon.
1872.	*h. m.*	*h. m.*	*h. m.*	*h. m.*	*h. m.*	*Feet.*	*Feet.*	*Feet.*	*Inches.*			*Feet.*	*Inches.*			′	°
Apr. 17	[7 32]	8 30	1 00	13 22	[18 16]	4.96	3.07	3.84	30.357	E	1	3.85	30.291	0	0	54.74	+20.11
	19 55	20 30	15 00	[12 58]	19 52	4.13	3.31	3.86	.268	E	2	3.87	.276	0	0		
18	[8 18]	9 30	2 00	13 35	[18 28]	5.13	3.00	3.83	.226	0	0	3.78	.254	SE	3	55.23	+16.38
	20 41	21 30	16 00	[13 12]	20 05	4.25	2.79	3.69	.386	0	0	3.57	.571	SE	2		
19	[9 04]	10 00	3 45	13 19	[19 27]	5.00	2.17	3.41	.700	E	7	3.29	.756	E	2	55.84	+11.48
	21 26	22 30	16 30	[13 26]	19 49	4.38	1.69	3.24	.777	0	0	3.24	.746	0	0		
20	[9 49]	11 00	4 45	13 34	[19 41]	5.46	1.65	3.29	.687	0	0	3.42	.517	0	0	56.53	+ 6.76
	22 11	23 15	17 30	[13 26]	20 04	5.42	1.67	3.57	.328	W	2	3.69	.278	E	4		
21	[10 34]	11 30	5 15	13 19	[19 26]	6.21	1.83	3.77	.240	W	3	3.83	.096	NW	3	57.27	+ 1.21
	22 56	23 30	18 00	[12 56]	19 49	6.00	1.56	3.87	.133	SE	4	3.90	30.144	SW	7		
22	[11 19]	......	6 00	......	[19 26]	......	1.58	3.94	30.029	W	10	......	29.813	SE	4	57.98	— 4.54
	23 43	12 00	18 00	13 04	19 04	6.73	1.33	4.24	29.625	E	2	4.08	......	......	......		
23	......	0 00	6 00	[12 41]	[18 41]	7.38	1.48	4.07	29.980	SW	35	4.19	29.540	S	5	58.62	—10.23
	[12 08]	12 15	18 15	12 32	18 32	6.46	0.63	3.74	30.233	SW	17	3.89	30.189	SW	21		
24	0 33	0 30	6 45	[12 22]	[18 37]	6.58	1.10	3.67	.307	0	0	3.70	.291	SW	14	59.13	—15.51
	[12 59]	13 00	19 00	12 27	18 27	6.54	0.29	3.73	.188	SE	3	3.67	.218	SE	2		
25	1 27	1 00	7 15	[12 01]	[18 16]	6.97	1.17	3.70	.257	NE	24	3.72	.199	NE	23	59.49	—20.00
	[13 55]	13 30	19 15	12 03	17 48	6.38	0.31	3.61	.338	NW	6	3.65	.265	NE	18		
26	2 24	2 00	8 00	[12 05]	[18 05]	6.54	1.23	3.51	.426	NE	6	3.56	.377	NE	23	59.67	—23.32
	[14 55]	14 00	20 00	11 36	17 36	5.96	0.33	3.47	.526	0	0	3.48	.471	SE	1		
27	3 25	2 30	8 30	[11 35]	[17 35]	6.27	1.46	3.51	.528	0	0	3.47	.543	SE	1	59.70	—25.15
	[15 56]	14 45	20 30	11 20	17 05	5.67	0.96	3.54	.402	SE	2	3.58	.436	W	2		
28	4 27	3 15	10 00	[11 19]	[18 04]	6.19	1.21	3.49	.431	SE	1	3.46	.399	SE	2	59.57	—25.26
	[16 58]	15 15	21 15	10 48	16 48	5.33	1.53	3.56	.313	E	5	3.51	.395	SE	5		
29	5 28	4 30	10 15	[11 32]	[17 17]	5.79	2.69	3.78	.290	E	4	3.77	.325	E	3	59.33	—23.78
	[17 58]	16 30	22 15	11 02	16 47	4.83	2.08	3.66	.303	NE	37	3.78	.288	E	6		
30	6 27	5 30	11 45	[11 32]	[17 47]	5.27	2.25	3.56	30.282	NE	15	3.56	.332	NE	32	59.02	—20.79
	[18 55]	18 30	......	12 03	......	4.46	......	......	......	......	......	3.60	.188	NE	30		
May 1	7 22	7 00	0 00	[12 05]	17 33	5.21	2.46	3.67	30.190	NE	39	3.73	.187	NE	29	58.64	—16.62
	[19 48]	20 00	13 30	12 38	[18 35]	4.33	2.88	3.73	.151	NE	27	3.79	.119	NE	20		
2	8 13	8 00	2 00	[12 12]	18 38	5.52	2.58	3.78	.185	NE	23	3.83	.188	NE	11	58.22	—11.62
	[20 37]	21 00	15 00	12 47	[19 12]	5.05	2.54	3.90	30.127	NE	8	3.94	30.105	0	0		
3	9 01	9 30	3 00	[12 53]	18 47	6.00	2.42	3.96	29.946	0	0	4.01	29.928	0	0	57.77	— 6.12
	[21 25]	22 15	16 00	13 14	[19 23]	5.78	2.22	4.11	.826	0	0	4.16	.762	SE	2		
4	9 48	10 30	4 00	[13 05]	18 59	6.44	2.44	4.17	.703	E	2	4.15	.717	NE	36	57.30	— 0.41
	[22 11]	23 00	16 45	13 12	[19 20]	6.00	1.83	4.12	.798	NE	52	4.06	.878	NE	45		
5	10 33	11 00	5 00	[12 49]	19 12	6.47	1.96	4.00	.924	NE	21	3.98	29.909	NE	8	56.80	+ 5.23
	[22 56]	23 30	17 30	12 57	[19 19]	6.35	1.33	4.01	29.968	NE	17	3.99	30.053	SW	4		
6	11 18	11 30	5 30	[12 34]	18 57	6.47	1.83	3.95	30.041	0	0	3.95	30.075	0	0	56.30	+10.56
	[23 41]	......	18 00	......	[19 04]	......	1.00	3.94	.088	NE	20	......	......	......	......		
7	......	0 00	6 00	12 42	18 42	6.64	1.50	3.90	.144	NE	7	3.90	30.139	NE	15	55.80	+15.36
	12 04	12 00	18 15	[12 19]	[18 34]	6.48	0.98	3.99	.125	NW	5	3.95	.113	NE	18		
8	[0 28]	0 30	6 30	12 26	18 26	6.90	1.71	4.02	.072	0	0	4.01	30.083	0	0	55.32	+19.40
	12 52	12 45	19 00	[12 17]	[18 32]	6.44	1.13	4.12	30.027	E	3	4.06	29.996	SE	1		
9	[1 16]	1 00	7 00	12 08	18 08	7.04	2.08	4.26	29.937	0	0	4.19	.982	E	2	54.89	+22.52
	13 41	13 00	19 00	[11 44]	[17 44]	6.58	1.60	4.40	.761	W	2	4.34	.820	W	2		
10	[2 06]	1 30	7 45	11 49	18 04	7.15	2.50	4.49	.678	0	0	4.44	.712	W	1	54.54	+24.56
	14 31	13 30	19 45	[11 24]	[17 39]	6.46	2.10	4.57	.582	NE	32	4.53	.583	SE	6		
11	[2 56]	2 00	8 00	11 29	17 29	7.02	2.88	4.56	.663	NE	38	4.57	.617	NE	31	54.29	+25.45
	15 21	14 00	20 15	[11 04]	[17 19]	6.13	2.35	4.53	29.724	NE	21	4.56	.713	NE	25		
12	[3 46]	2 30	9 00	11 09	17 39	6.75	2.88	4.37	30.038	SW	2	4.45	29.814	NE	24	54.16	+25.17
	16 12	14 45	20 30	[10 59]	[16 44]	5.52	2.30	4.09	.177	SW	5	4.27	30.117	SW	14		
13	[4 37]	3 30	9 45	11 18	17 33	6.00	2.23	3.97	.169	0	0	3.98	.185	SW	4	54.19	+23.75
	17 01	15 00	21 30	[10 23]	[16 53]	5.23	2.58	3.99	.315	SW	9	3.94	.201	0	0		
14	[5 25]	4 15	10 30	11 14	17 29	5.44	3.17	4.01	.354	SW	5	4.03	.387	SW	8	54.38	+21.19
	17 48	16 00	22 00	[10 35]	[16 35]	4.67	2.94	3.94	.332	SW	3	3.99	.278	S	2		
15	[6 11]	4 30	11 45	10 42	17 57	4.96	3.13	3.79	.562	SW	8	3.87	.458	SW	7	54.73	+17.89
	18 34	17 30	23 30	[11 19]	[17 19]	4.08	2.96	3.76	30.565	SW	3	3.79	.568	SW	8		
16	[6 56]	7 00	......	12 26	......	5.00	......	......	......	......	......	3.75	.566	SW	6	55.25	+13.70
	19 18	19 45	13 30	[12 49]	18 56	4.21	2.92	3.75	30.596	SW	10	3.71	.610	SW	7		
17	[7 40]	7 00	1 30	11 42	[18 34]	4.88	2.79	3.66	.581	SE	3	3.69	.513	SE	4	55.93	+ 8.85
	20 02	20 00	15 00	[12 20]	19 42	4.75	2.63	3.73	.438	SW	8	3.72	.484	0	0		
18	[8 24]	8 30	3 00	12 28	[19 20]	5.13	2.52	3.69	30.481	E	5	3.63	30.461	E	1	56.71	+ 3.50

Table for the reduction of tides, No. 1.—Continued.

Date.	Moon passes the meridian.—Mean time.	Mean time of— High water.	Mean time of— Low water.	Lunitidal interval. High water.	Lunitidal interval. Low water.	Height of— High water.	Height of— Low water.	Low water. Half-tide level.	Low water. Barometer reduced.	Low water. Wind. Direction.	Low water. Wind. Velocity.	High water. Half-tide level.	High water. Barometer reduced.	High water. Wind. Direction.	High water. Wind. Velocity.	Moon's— Parallax at noon.	Moon's— Declination at noon.
1872.	*h. m.*	*h. m.*	*h. m.*	*h. m.*	*h. m.*	*Feet.*	*Feet.*	*Feet.*	*Inches.*			*Feet.*	*Inches.*			′	°
May 18	20 47	21 30	15 30	[13 06]	19 28	4.83	2.08	3.61	30.409	0	0	3.59	30.465	SE	2	......	....
19	[9 09]	9 30	3 45	12 43	[19 21]	5.23	2.29	3.56	.524	E	3	3.44	.585	SE	1	57.57	− 2.16
	21 32	22 30	16 15	[13 21]	19 28	5.08	1.29	3.40	.568	NW	1	3.34	.573	SE	3	......	....
20	[9 56]	10 30	4 30	12 58	[19 21]	5.40	1.69	3.32	.554	SE	1	3.37	.520	W	1	58.44	− 7.91
	22 21	23 15	17 00	[13 19]	19 28	5.86	0.92	3.47	.414	E	3	3.58	.321	SE	4	......	....
21	[10 47]	11 00	5 00	12 39	[19 04]	6.19	1.75	3.71	30.173	0	0	3.89	30.021	NW	4	59.23	−13.44
	23 13	......	17 00	......	18 39	......	1.17	4.09	29.843	NE	12	......	......	......	...	......	....
22	[11 41]	0 00	6 00	[13 13]	[19 13]	7.04	2.19	4.24	.766	0	0	4.20	29.717	NE	18	59.89	−18.38
	......	12 00	17 55	12 47	18 42	6.63	1.04	4.30	.715	0	0	4.26	.786	NW	4	......	....
23	0 10	0 15	6 25	[12 34]	[18 44]	7.35	2.21	4.49	.522	NE	23	4.38	.610	NE	9	60.33	−22.29
	[12 40]	12 30	18 40	12 20	18 30	7.24	1.29	4.70	.425	NE	8	4.59	.409	NE	25	......	....
24	1 11	1 00	7 05	[12 20]	[18 25]	7.92	2.54	4.78	.456	SW	18	4.75	.427	E	3	60.53	−24.76
	[13 43]	13 10	19 15	11 59	18 04	7.29	1.46	4.83	.417	SW	7	4.81	.420	W	4	......	....
25	2 15	1 45	7 45	[12 02]	[18 02]	7.98	2.65	4.80	.490	SW	6	4.81	.433	SW	10	60.48	−25.50
	[14 47]	13 50	19 45	11 35	17 30	7.06	1.60	4.75	.629	SW	7	4.78	.558	SW	4	......	....
26	3 19	2 15	8 25	[11 28]	[17 38]	7.63	2.77	4.68	.681	SW	5	4.71	.659	SW	1	60.20	−24.44
	[15 50]	14 30	20 50	11 11	17 31	6.61	1.84	4.57	.724	SW	3	4.15	.671	SW	3	......	....
27	4 20	3 05	9 30	[11 15]	[17 40]	7.13	2.63	4.37	.920	SW	5	4.46	.823	SW	8	59.74	−21.76
	[16 49]	14 55	21 30	10 35	17 10	5.86	1.92	4.24	29.969	SW	9	4.31	29.916	SW	8	......	....
28	5 18	4 10	10 30	[11 21]	[17 41]	6.54	2.69	4.12	30.110	SW	5	4.17	30.048	SW	8	59.17	−17.77
	[17 45]	16 25	22 40	11 07	17 22	5.21	2.15	4.02	.188	NE	5	4.08	.138	SW	6	......	....
29	6 11	5 15	11 45	[11 30]	[18 00]	6.02	2.75	3.98	.227	SW	12	3.98	.255	SW	7	58.53	−12.88
	[18 36]	17 25	23 35	11 14	17 24	4.81	2.57	3.97	30.191	SW	4	4.01	.190	SW	4	......	....
30	7 00	6 30	....	[11 54]	......	5.79	......	......	......	......	....	3.99	.180	SW	2	57.89	− 7.45
	[19 23]	19 30	12 55	12 30	[18 19]	5.06	2.68	4.05	30.070	SW	4	4.11	30.000	SW	2	......	....
31	7 46	7 30	1 30	[12 07]	18 30	6.06	2.79	4.15	29.954	SE	3	4.16	29.943	SW	6	57.26	− 1.79
	[20 09]	20 30	14 15	12 44	[18 52]	5.06	2.75	4.18	.872	SW	8	4.29	.865	SW	9	......	....
June 1	8 31	8 15	2 35	[12 06]	18 49	6.83	2.92	4.35	.865	SW	8	4.42	.863	SW	12	56.65	+ 3.84
	[20 54]	21 30	15 15	12 59	[19 06]	5.92	2.44	4.53	.863	SW	10	4.45	.858	SW	12	......	....
2	9 16	9 45	3 30	[12 51]	18 59	6.21	2.92	4.35	.897	SW	11	4.40	.905	W	9	56.13	+ 9.21
	[21 39]	22 30	16 15	13 14	[19 21]	6.42	2.31	4.46	.904	SW	6	4.49	.936	W	4	......	....
3	10 01	10 30	4 30	[12 51]	19 14	6.48	2.88	4.48	.917	NW	4	4.48	29.953	0	0	55.64	+14.11
	[22 24]	23 00	16 15	12 59	[18 36]	6.73	2.00	4.50	29.995	W	2	4.49	30.016	E	4	......	....
4	10 47	10 30	5 00	[12 06]	18 59	6.48	2.75	4.48	30.051	E	0.5	4.52	30.051	0	0	55.19	+18.34
	[23 11]	......	17 15	......	[18 51]	......	1.92	4.58	.023	S	2	......	......	......	...	......	....
5	11 35	0 15	5 30	13 28	18 43	7.15	2.79	4.61	30.010	W	3	4.59	30.026	0	0	54.81	+21.72
	......	11 45	18 00	[12 34]	[18 49]	6.54	2.02	4.68	29.946	0	0	4.65	29.940	NW	7	......	....
6	[0 00]	0 15	6 15	12 40	18 40	7.33	2.92	4.74	.931	E	3	4.72	.989	0	0	54.49	+24.09
	12 25	12 15	18 15	[12 15]	[18 15]	6.67	2.08	......	29.848	0	0	......	29.825	NW	6	......	....

Table for the reduction of tides, No. 2.—Showing the interval between the time of the moon's upper and lower transits and the time of high and low water; and also the heights of high and low water.

UPPER TRANSIT.

Moon's transit.	Lunitidal interval, high water.	Height of high water.	No. of observations.	Moon's transit.	Lunitidal interval, high water.	Height of high water.	No. of observations.	Moon's transit.	Lunitidal interval, high water.	Height of high water.	No. of observations.	Moon's transit.	Lunitidal interval, high water.	Height of high water.	No. of observations.
h. m.	*h. m.*	*Feet.*		*h. m.*	*h. m.*	*Feet.*		*h. m.*	*h. m.*	*Feet.*		*h. m.*	*h. m.*	*Feet.*	
0 43	12 17	6.25	.....	1 44	11 16	5.83	.....	2 48	11 12	5.67	.....	3 51	10 39	5.63	.....
0 22	12 08	8.13	.....	1 33	11 27	8.50	.....	2 37	11 23	7.79	.....	3 38	11 22	6.96	.....
0 15	12 45	7.63	.....	1 05	12 25	7.75	.....	2 42	12 18	7.58	.....	3 28	11 32	7.46	.....
0 14	11 46	7.71	.....	1 54	12 06	7.79	.....	2 18	11 42	7.17	.....	3 13	11 47	7.42	.....
0 39	12 51	8.08	.....	1 18	11 42	7.67	.....	2 12	12 03	7.42	.....	3 40	11 20	7.92	.....
0 56	12 04	7.71	.....	1 26	12 34	7.63	.....	2 56	12 04	8.00	.....	3 26	11 34	7.13	.....
0 08	12 52	7.38	.....	1 49	12 11	7.67	.....	2 39	12 06	7.65	.....	3 08	11 52	6.83	.....
0 54	12 36	8.58	.....	1 38	12 22	7.46	.....	2 23	11 52	7.17	.....	3 34	11 56	6.04	.....
0 26	12 34	6.27	.....	1 15	12 00	6.50	.....	2 02	11 58	6.98	.....	3 35	10 40	6.50	.....
0 18	12 42	6.44	.....	1 04	12 11	6.88	.....	2 48	12 12	6.54	.....	3 00	12 00	6.40	.....
0 38	12 22	6.90	.....	1 52	12 08	6.58	.....	2 42	11 18	6.58	.....	3 49	11 41	6.08	.....
0 33	12 27	6.54	.....	1 25	12 35	6.96	.....	2 12	12 03	6.64	.....	3 25	11 20	5.67	.....
0 04	12 26	6.90	.....	1 27	12 03	6.38	.....	2 24	11 36	5.96	.....	3 21	11 09	6.75	.....
0 52	12 08	7.04	.....	1 41	11 49	7.15	.....	2 31	11 29	7.02	.....	3 19	11 11	6.61	.....
0 10	12 20	7.24	.....	1 11	11 59	7.29	.....	2 15	11 35	7.06	.....				
0 29	12 25	7.25	15	1 29	12 03	7.20	15	2 30	11 17	7.02	15	3 28	11 26	6.67	14
[0 28]	[12 23]	[7.19]	15	[1 27]	[12 08]	[7.28]	15	[2 28]	[11 16]	[7.04]	15	[3 29]	[11 27]	[6.88]	16
0 57	24 48	14.44	.....	2 56	24 11	14.48	.....	4 58	23 33	14.06	.....	6 57	22 53	13 55	.....
0 28	12 24	7.22	30	1 28	12 05	7.24	30	2 29	11 46	7.03	30	3 29	11 27	6.78	30
4 51	10 39	4.92	.....	5 47	10 13	4.58	.....	6 51	13 39	4.71	.....	7 38	13 22	4.75	.....
4 45	11 45	6.21	.....	5 31	11 29	6.92	.....	6 39	11 21	4.63	.....	7 02	12 28	6.00	.....
4 33	11 27	5.88	.....	5 24	11 36	5.46	.....	6 17	11 43	6.77	.....	7 48	13 12	6.25	.....
4 13	11 47	7.33	.....	5 42	11 18	6.77	.....	6 11	12 19	5.75	.....	7 38	13 22	6.25	.....
4 57	11 33	7.13	.....	5 35	11 25	5.83	.....	6 55	13 05	6.00	.....	7 15	11 45	6.50	.....
4 03	11 57	7.00	.....	5 10	11 20	6.67	.....	6 27	12 08	6.75	.....	7 03	12 57	4.96	.....
4 50	11 10	6.42	.....	5 58	11 47	6.54	.....	6 19	11 41	5.25	.....	7 47	13 13	5.75	.....
4 24	11 36	7.17	.....	5 42	11 48	5.89	.....	6 50	11 55	6.52	.....	7 46	12 14	6.50	.....
4 12	11 48	6.54	.....	5 09	11 21	5.50	.....	6 29	12 31	5.71	.....	7 16	12 44	6.50	.....
4 57	11 33	6.13	.....	5 58	11 32	5.21	.....	6 47	12 43	4.58	.....	7 37	14 08	4.96	.....
4 21	11 39	5.67	.....	5 32	10 28	5.00	.....	6 33	10 57	4.54	.....	7 34	11 56	4.48	.....
4 32	10 28	5.67	.....	5 29	11 31	5.27	.....	6 19	12 11	4.69	.....	7 08	13 22	4.96	.....
4 39	11 21	5.85	....	5 28	11 02	4.83	.....	6 27	12 03	4.46	.....	7 55	13 35	5.13	.....
4 27	10 48	5.33	.....	5 01	11 14	5.44	.....	6 34	12 26	5.00	.....	7 22	12 38	4.33	.....
4 12	11 18	6.00	.....	5 48	10 42	4.96	.....	6 11	11 14	4.81	.....	7 18	11 42	4.88	.....
4 20	10 35	5.86	.....	5 18	11 07	5.21	.....					7 00	12 30	5.06	.....
												7 46	12 44	5.06	.....
4 31	11 20	6.19	16	5 32	11 13	5.63	16	6 31	12 08	5.34	15	7 28	12 49	5.43	17
[4 31]	[11 12]	[6.23]	15	[5 31]	[11 15]	[5.82]	16	[6 30]	[11 50]	[5.44]	17	[7 27]	[12 34]	[5.43]	15
9 02	22 32	12.42	.....	11 03	22 28	11.45	.....	13 01	23 58	10.78	.....	14 55	25 23	11.26	.....
4 31	11 16	6.21	31	5 31	11 14	5.73	32	6 30	11 59	5.39	32	7 28	12 42	5.43	32
8 24	12 36	4.96	.....	9 12	12 48	5.42	.....	10 00	13 00	5.48	.....	11 45	12 15	6.29	.....
8 36	12 24	6.96	.....	9 27	12 33	7.50	.....	10 51	12 09	5.75	.....	11 23	12 37	8.08	.....
8 21	13 39	6.63	.....	9 05	13 55	6.71	.....	10 23	12 37	7.67	.....	11 25	13 35	7.67	.....
8 06	12 54	6.67	.....	9 50	13 10	7.42	.....	10 37	13 23	7.71	.....	11 08	12 52	7.56	.....
8 34	13 56	6.33	.....	9 02	12 28	6.73	.....	10 03	12 27	7.13	.....	11 00	13 30	8.10	.....
8 47	12 13	6.33	.....	9 21	13 54	7.27	.....	10 11	13 49	7.75	.....	11 50	13 10	8.42	.....
8 05	13 55	6.25	.....	9 51	12 09	6.31	.....	10 55	12 05	7.00	.....	11 57	12 03	7.35	.....
8 55	14 05	7.00	.....	9 45	13 15	6.58	.....	10 34	13 26	6.67	.....	11 22	13 08	7.00	.....
8 27	13 48	5.67	.....	9 41	13 19	5.25	.....	10 40	12 50	5.08	.....	11 35	12 25	6.04	.....
8 31	12 29	5.17	.....	9 15	13 45	5.33	.....	10 02	13 58	5.50	.....	11 33	12 57	6.27	.....
8 41	13 19	5.00	.....	9 26	12 34	5.67	.....	10 48	13 12	6.04	.....	11 05	12 55	6.78	.....

Table for the reduction of tides, No. 2.—Continued.

UPPER TRANSIT—Continued.

Moon's transit.	Lunitidal interval, high water.	Height of high water.	No. of observations.	Moon's transit.	Lunitidal interval, high water.	Height of high water.	No. of observations.	Moon's transit.	Lunitidal interval, high water.	Height of high water.	No. of observations.	Moon's transit.	Lunitidal interval, high water.	Height of high water.	No. of observations.
h. m.	*h. m.*	*Feet.*		*h. m.*	*h. m.*	*Feet.*		*h. m.*	*h. m.*	*Feet.*		*h. m.*	*h. m.*	*Feet.*	
8 13	12 47	5.05	.....	9 26	13 34	5.46	.....	10 17	12 43	6.31	.....	11 52	12 38	6.92	.....
8 02	12 28	5.13	.....	9 01	13 14	5.78	.....	10 11	13 19	6.21	.....	11 43	12 32	6.46	.....
8 47	12 43	5.23	.....	9 48	13 12	6.00	.....	10 56	13 04	6.73	.....	11 18	12 42	6.64	.....
8 31	12 59	5.92	.....	9 32	12 58	5.40	.....	10 33	12 57	6.35	.....	11 13	12 47	6.63	.....
				9 16	13 14	6.42	.....	10 21	12 39	6.19	.....	11 35	12 40	7.33	.....
								10 01	12 59	6.73	.....				
								10 47	13 28	7.15	.....				
8 28	13 05	5.89	15	9 26	13 08	6.20	16	10 27	13 00	6.53	18	11 29	12 48	7.09	16
[8 28]	[13 06]	[5.69]	18	[9 31]	[13 05]	[6.25]	17	[10 31]	[12 58]	[6.71]	16	[11 29]	[12 41]	[7.05]	16
16 56	26 11	11.58	.....	18 57	26 13	12.45	.....	20 58	25 58	13.24	.....	22 58	25 29	14.14	.....
8 28	13 06	5.79	33	9 29	13 07	6.23	33	10 29	12 59	6.62	34	11 29	12 44	7.07	32

LOWER TRANSIT.

Moon's transit.	Lunitidal interval, high water.	Height of high water.	No. of observations.	Moon's transit.	Lunitidal interval, high water.	Height of high water.	No. of observations.	Moon's transit.	Lunitidal interval, high water.	Height of high water.	No. of observations.	Moon's transit.	Lunitidal interval, high water.	Height of high water.	No. of observations.
0 14	12 46	6.92	.....	1 13	11 47	6.71	.....	2 16	11 44	6.58	.....	3 20	11 40	6.75	.....
0 40	11 50	6.83	.....	1 00	12 00	9.17	.....	2 05	11 55	8.71	.....	3 08	10 52	8.83	.....
0 46	12 14	8.77	.....	1 30	12 30	6.75	.....	2 18	11 42	6.79	.....	3 05	11 55	6.63	.....
0 15	12 45	7.46	.....	1 48	12 12	8.50	.....	2 46	12 14	8.38	.....	3 51	11 09	6.50	.....
0 27	12 33	8.58	.....	1 03	12 26	6.96	.....	2 34	12 11	6.90	.....	3 38	11 22	8.17	.....
0 31	12 29	7.13	.....	1 49	12 11	6.69	.....	2 14	11 46	8.50	.....	3 18	11 42	7.25	.....
0 01	12 29	6.75	.....	1 23	12 07	8.75	.....	2 00	12 15	6.67	.....	3 03	11 42	8.08	.....
0 51	12 24	7.30	.....	1 16	12 14	7.54	.....	2 45	11 45	6.42	.....	3 49	11 26	7.50	.....
0 41	12 19	6.50	.....	1 39	12 21	7.00	.....	2 25	12 05	7.17	.....	3 31	11 29	6.25	.....
0 15	12 45	7.13	.....	1 28	12 02	6.50	.....	2 17	11 43	6.63	.....	3 11	12 19	6.79	.....
0 08	12 22	6.58	.....	1 01	12 14	6.83	.....	2 36	11 39	6.33	.....	3 57	11 03	6.00	.....
0 59	12 01	6.97	.....	1 48	12 12	6.71	.....	2 55	11 35	6.27	.....	3 08	11 22	6.50	.....
0 28	12 17	6.44	.....	1 55	12 05	6.54	.....	2 06	11 24	6.46	.....	3 24	11 36	5.96	.....
0 40	12 20	7.92	.....	1 16	11 44	6.58	.....	2 56	11 04	6.13	.....	3 56	11 19	6.19	.....
0 00	12 15	6.67	.....	1 43	12 02	7.98	.....	2 47	11 28	7.63	.....	3 46	10 59	5.52	.....
												3 50	11 15	7.13	.....
0 28	12 23	7.19	15	1 27	12 08	7.28	15	2 28	11 46	7.01	15	3 29	11 27	6.88	16
4 21	10 39	6.17	.....	5 19	11 11	5.92	.....	6 27	12 03	4.79	.....	7 15	12 30	3.67	.....
4 21	11 09	5.29	.....	5 08	10 52	5.67	.....	6 13	12 17	5.67	.....	7 03	11 57	5.17	.....
4 06	11 51	7.25	.....	5 54	11 05	6.00	.....	6 40	12 20	5.50	.....	7 25	13 05	5.50	.....
4 59	11 01	6.55	.....	5 48	12 12	6.58	.....	6 33	11 57	7.00	.....	7 17	12 43	6.71	.....
4 35	11 25	6.42	.....	5 19	11 25	6.22	.....	6 01	11 56	6.13	.....	7 59	13 01	6.63	.....
4 27	10 33	7.73	.....	5 13	11 17	6.83	.....	6 51	12 09	6.13	.....	7 40	12 55	6.31	.....
4 02	11 43	6.96	.....	5 57	11 33	6.21	.....	6 41	11 19	5.48	.....	7 25	12 35	5.46	.....
4 47	11 43	6.42	.....	5 34	11 41	6.30	.....	6 24	11 51	6.33	.....	7 18	12 42	6.42	.....
4 35	11 25	6.88	.....	5 20	11 40	6.83	.....	6 05	11 10	5.88	.....	7 40	11 35	6.13	.....
4 45	11 15	4.35	.....	5 33	10 57	5.33	.....	6 52	12 08	6.50	.....	7 12	13 18	4.04	.....
4 03	10 57	6.25	.....	5 02	10 58	5.58	.....	6 22	11 08	4.63	.....	7 03	12 32	5.08	.....
4 14	11 01	5.65	.....	5 04	10 56	5.15	.....	6 02	10 58	5.14	.....	7 32	12 58	4.13	.....
4 58	11 32	5.79	.....	5 54	10 36	4.47	.....	6 44	11 46	4.00	.....	7 48	12 12	5.52	.....
4 37	10 23	5.23	.....	5 58	11 32	5.27	.....	6 55	12 05	5.21	.....	7 40	12 20	4.57	.....
4 49	11 21	6.54	.....	5 25	10 35	4.67	.....	6 11	11 19	4.08	.....	7 23	12 07	6.06	.....
				5 45	11 30	6.02	.....	6 56	12 49	4.21	.....				
								6 36	11 54	5.79	.....				
4 31	11 12	6.23	15	5 31	11 15	5.82	16	6 30	11 50	5 44	17	7 27	12 34	5.43	15

Table for the reduction of tides, No. 2.—Continued.

LOWER TRANSIT—Continued.

Moon's transit.	Lunitidal interval, high water.	Height of high water.	No. of observations.	Moon's transit.	Lunitidal interval, high water.	Height of high water.	No. of observations.	Moon's transit.	Lunitidal interval, high water.	Height of high water.	No. of observations.	Moon's transit.	Lunitidal interval, high water.	Height of high water.	No. of observations.
h. m.	*h. m.*	*Feet.*		*h. m.*	*h. m.*	*Feet.*		*h. m.*	*h. m.*	*Feet.*		*h. m.*	*h. m.*	*Feet.*	
8 01	13 59	4.33	.....	9 36	13 24	5.25	.....	10 25	13 05	5.67	.....	11 18	12 42	6.35	.....
8 48	13 12	5.17	.....	9 01	12 59	7.42	.....	10 53	13 07	8.54	.....	11 55	12 05	8.85	.....
8 12	13 18	6.25	.....	9 55	13 05	8.00	.....	10 13	12 47	6.88	.....	11 01	13 29	7.21	.....
8 43	13 17	6.58	.....	9 27	12 33	7.00	.....	10 35	13 25	9.08	.....	11 51	12 39	7.17	.....
8 34	12 56	6.63	.....	9 32	12 58	7.65	.....	10 36	13 21	6.67	.....	11 41	12 19	8.56	.....
8 10	12 50	5.71	.....	9 46	13 14	6.60	.....	10 24	12 51	7.50	.....	11 25	13 05	7.50	.....
8 57	13 03	6.13	.....	9 19	12 41	6.69	.....	10 10	12 50	5.69	.....	11 26	12 49	7.79	.....
8 16	12 44	6.50	.....	9 20	12 40	6.25	.....	10 58	13 02	6.17	.....	11 45	12 30	6.33	.....
8 30	13 30	5.83	.....	9 11	13 19	6.08	.....	10 11	13 04	6.33	.....	11 08	13 07	6.25	.....
8 02	13 43	4.58	.....	9 39	13 21	5.13	.....	10 25	13 35	5.42	.....	11 11	12 49	5.75	.....
8 51	13 24	4.97	.....	9 52	12 38	6.58	.....	10 41	12 34	6.97	.....	11 56	12 49	5.92	.....
8 03	12 42	5.50	.....	9 04	13 26	4.38	.....	10 34	12 56	6.00	.....	11 29	12 31	7.29	.....
8 59	13 01	6.19	.....	9 49	13 26	5.42	.....	10 11	12 49	6.47	.....	11 19	12 41	7.38	.....
8 18	13 12	4.25	.....	9 25	13 05	6.44	.....	10 56	12 34	6.47	.....	11 41	12 19	6.48	.....
8 37	12 53	6.00	.....	9 09	13 21	5.08	.....	10 47	13 13	7.04	.....	11 41	12 34	7.35	.....
8 24	13 06	4.83	.....	9 56	13 19	5.86	.....	10 24	12 06	6.48	.....	11 11	12 34	6.54	.....
8 09	12 06	6.83	.....	9 39	12 51	6.48	.....								
8 54	12 51	6.21	.....												
8 28	13 06	5.69	18	9 31	13 05	6.25	17	10.31	12 58	6.71	16	11 29	12 41	7.05	16

UPPER TRANSIT.

Moon's transit.	Lunitidal interval, low water.	Height of low water.	No. of observations.	Moon's transit.	Lunitidal interval, low water.	Height of low water.	No. of observations.	Moon's transit.	Lunitidal interval, low water.	Height of low water.	No. of observations.	Moon's transit.	Lunitidal interval, low water.	Height of low water.	No. of observations.
h. m.	*h. m.*	*Feet.*		*h. m.*	*h. m.*	*Feet.*		*h. m.*	*h. m.*	*Feet.*		*h. m.*	*h. m.*	*Feet.*	
0 43	17 17	0.25	.....	1 44	17 46	0.33	.....	2 48	17 12	0.75	.....	3 51	17 09	1.33	.....
0 22	18 38	2.50	.....	1 33	17 27	2.33	.....	2 37	17 23	2.67	.....	3 38	17 22	2.33	.....
0 15	18 45	3.58	.....	1 05	18 55	3.63	.....	2 42	18 18	3.58	.....	3 28	18 02	3.58	.....
0 14	17 46	2.13	.....	1 54	18 06	3.75	.....	2 18	17 42	1.83	.....	3 13	17 47	2.21	.....
0 39	19 21	3.54	.....	1 18	17 42	1.92	.....	2 12	17 48	2.67	.....	3 40	18 05	3.33	.....
0 56	18 04	2.00	.....	1 26	18 34	2.83	.....	2 56	18 04	3.21	.....	3 26	17 34	2.17	.....
0 08	18 52	2.72	.....	1 49	18 11	1.83	.....	2 39	17 36	2.08	.....	3 08	17 52	1.67	.....
0 54	18 36	3.38	.....	1 38	18 22	2.00	.....	2 23	18 22	1.46	.....	3 34	17 41	2.04	.....
0 26	18 19	0.08	.....	1 15	18 30	1.33	.....	2 02	17 58	1.58	.....	3 35	17 05	1.17	.....
0 18	18 27	0.65	.....	1 04	18 11	0.75	.....	2 48	17 42	2.00	.....	3 00	18 00	2.11	.....
0 38	18 37	1.08	.....	1 52	17 53	0.63	.....	2 42	17 18	0.88	.....	3 49	17 26	2.58	.....
0 33	18 27	0.29	.....	1 25	18 05	1.50	.....	2 12	18 03	1.65	.....	3 25	17 05	0.96	.....
0 04	18 26	1.71	.....	1 27	17 48	0.31	.....	2 24	17 36	0.33	.....	3 21	17 39	2.88	.....
0 52	18 08	2.08	.....	1 41	18 04	2.50	.....	2 31	17 29	2.88	.....	3 19	17 31	1.84	.....
0 10	18 30	1.29	.....	1 11	18 04	1.46	.....	2 15	17 30	1.60	.....				
0 29	18 25	1.82	15	1 29	18 06	1.81	15	2 29	17 44	1.94	15	3 28	17 35	2.16	14
[0 28]	[18 31]	[1.86]	15	[1 23]	[18 05]	[1.98]	15	[2 28]	[17 45]	[2.14]	15	[3 29]	[17 39]	[2.31]	16
0 57	36 56	3.68	.....	2 52	36 11	3.79	.....	4 57	35 29	4.08	.....	6 57	35 10	4.47	.....
0 28	18 28	1.84	30	1 26	18 05	1.89	30	2 29	17 45	2.04	30	3 29	17 37	2.24	30

Table for the reduction of tides, No. 2.—Continued.

UPPER TRANSIT—Continued.

Moon's transit.	Lunitidal interval, low water.	Height of low water.	No. of observations.	Moon's transit.	Lunitidal interval, low water.	Height of low water.	No. of observations.	Moon's transit.	Lunitidal interval, low water.	Height of low water.	No. of observations.	Moon's transit.	Lunitidal interval, low water.	Height of low water.	No. of observations.
h. m.	*h. m.*	*Feet.*		*h. m.*	*h. m.*	*Feet.*		*h. m.*	*h. m.*	*Feet.*		*h. m.*	*h. m.*	*Feet.*	
4 51	17 09	2.00	.....	5 47	17 13	2.54	.....	6 51	19 39	2.63	.....	7 38	19 52	2.08	.....
4 45	17 15	3.96	.....	5 31	17 59	4.67	.....	6 39	17 51	2.50	.....	7 02	18 58	3.13	.....
4 33	16 57	2.17	.....	5 24	17 36	3.00	.....	6 17	18 43	4.04	.....	7 48	19 12	2.88	.....
4 13	18 17	3.75	.....	5 42	17 48	3.64	.....	6 11	17 49	4.04	.....	7 38	19 22	4.29	.....
4 57	18 03	3.88	.....	5 35	17 25	3.35	.....	6 55	19 05	4.33	.....	7 15	18 45	3.39	.....
4 03	17 57	2.65	.....	5 10	17 50	3.00	.....	6 27	18 33	3.67	.....	7 03	18 27	3.75	.....
4 50	17 10	2.83	.....	5 58	18 02	3.25	.....	6 19	17 41	3.42	.....	7 47	19 13	4.13	.....
4 24	17 36	3.10	.....	5 42	17 18	3.77	.....	6 50	18 10	3.65	.....	7 46	18 44	3.33	.....
4 12	17 18	2.46	.....	5 09	17 21	3.50	.....	6 29	17 46	4.72	.....	7 16	18 44	5.38	.....
4 57	17 03	3.31	.....	5 58	17 47	3.75	.....	6 47	19 43	3.63	.....	7 37	20 23	3.75	.....
4 21	17 39	2.67	.....	5 32	16 58	2.08	.....	6 33	17 27	2.46	.....	7 34	17 56	2.67	.....
4 32	17 13	1.58	.....	5 29	17 31	3.38	.....	6 19	18 26	3.35	.....	7 08	19 52	3.31	.....
4 39	17 21	3.29	.....	5 28	16 47	2.08	.....	6 27	17 33	2.46	.....	7 55	20 05	2.79	.....
4 27	16 48	1.53	.....	5 01	17 29	3.17	.....	6 34	18 56	2.92	.....	7 22	18 38	2.58	.....
4 12	17 33	2.23	.....	5 48	17 57	3.13	.....	6 11	17 24	2.57	.....	7 18	19 42	2.63	.....
4 20	17 10	1.92	.....	5 18	17 22	2.15	.....					7 00	18 30	2.79	.....
												7 46	18 49	2.92	.....
4 31	17 24	2.71	16	5 32	17 31	3.15	16	6 31	18 19	3.36	15	7 28	19 08	3.28	17
[4 31]	[17 25]	[2.81]	15	[5 31]	[17 30]	[3.15]	16	[6 30]	[18 06]	[3.44]	[17]	[7 27]	[18 59]	[3.33]	15
9 02	34 49	5.52	....	11 03	35 01	6.30	.....	13 01	36 25	6.80	.....	14 55	38 07	6.61	.....
4 31	17 25	2.76	31	5 31	17 31	3.15	32	6 30	18 12	3.40	32	7 28	19 03	3.31	32
8 21	19 36	1.88	.....	9 12	19 18	1.00	.....	10 00	19 00	0.50	.....	11 45	18 15	0.25	.....
8 36	19 21	2.38	.....	9 27	18 33	2.67	.....	10 51	18 09	0.00	.....	11 23	19 37	2.21	.....
8 21	19 39	4.08	.....	9 05	18 55	4.13	.....	10 23	18 37	2.33	.....	11 25	19 35	3.75	.....
8 06	18 54	2.97	.....	9 50	19 10	3.92	.....	10 37	19 23	3.75	.....	11 08	18 52	2.47	.....
8 31	19 26	4.13	.....	9 02	18 58	2.73	.....	10 03	18 57	2.46	.....	11 00	19 00	4.25	.....
8 47	19 13	2.96	.....	9 21	19 39	4.50	.....	10 11	19 49	3.96	.....	11 50	19 10	4.00	.....
8 05	20 10	4.44	.....	9 51	19 09	2.46	.....	10 55	19 05	2.31	.....	11 57	18 18	2.31	.....
8 55	20 05	4.42	.....	9 45	20 15	3.25	.....	10 31	19 26	2.89	.....	11 22	18 53	2.71	.....
8 40	19 20	2.88	.....	9 41	19 19	2.09	.....	10 40	18 50	1.12	.....	11 35	18 25	0.92	.....
8 27	20 03	3.50	.....	9 15	20 00	2.25	.....	10 02	19 28	1.81	.....	11 33	18 27	1.06	.....
8 31	18 41	2.50	.....	9 26	18 34	2.13	.....	10 48	19 12	1.50	.....	11 05	18 40	1.63	.....
8 41	19 49	1.69	.....	9 26	20 04	1.67	.....	10 17	18 28	1.71	.....	11 52	18 38	1.25	.....
8 13	18 47	2.12	.....	9 01	18 59	2.41	.....	10 11	19 49	1.56	.....	11 43	18 32	0.63	.....
8 02	19 28	2.08	.....	9 48	19 12	1.96	.....	10 56	19 01	1.33	.....	11 18	18 42	1.50	.....
8 47	19 28	1.29	.....	9 32	19 28	0.92	.....	10 33	18 57	1.83	.....	11 13	18 42	1.01	.....
8 31	18 59	2.92	.....	9 16	19 11	2.88	.....	10 21	18 39	1.17	.....	11 35	18 40	2.92	.....
								10 01	18 59	2.75	.....				
								10 47	18 43	2.79	.....				
8 29	19 27	2.91	16	9 26	19 18	2.56	16	10 27	19 02	2.01	18	11 29	18 47	2.06	16
[8 28]	[19 17]	[2.96]	18	[9 31]	[19 17]	[2.63]	17	[10 31]	[19 08]	[2.33]	16	[11 29]	[18 46]	[2.07]	16
16 57	38 44	5.87	.....	18 57	38 35	5 19	.....	20 58	38 10	4.34	.....	22 58	37 33	4.13	.....
8 29	19 22	2.93	34	9 29	19 18	2 59	33	10 29	19 05	2.17	34	11 29	18 47	2.06	32

LOWER TRANSIT.

0 14	18 46	1.33	.....	1 13	17 47	1.17	.....	2 16	17 44	1.42	.....	3 20	17 40	2.33	.....
0 40	18 20	2.63	.....	1 00	18 00	3.67	.....	2 05	17 55	3.42	.....	3 08	17 52	3.58	.....
0 46	18 14	3.00	.....	1 30	17 30	2.54	.....	2 18	17 42	2.79	.....	3 05	16 55	2.88	.....
0 15	18 45	3.02	.....	1 48	18 12	2.85	.....	2 46	18 14	2.75	.....	3 51	17 09	3.13	.....
0 27	18 48	2.50	.....	1 03	17 57	2.28	.....	2 34	17 26	2.58	.....	3 38	17 52	3.00	.....
0 31	18 29	2.79	.....	1 49	18 11	2.08	.....	2 14	18 01	2.50	.....	3 18	17 42	3.21	.....

Table for the reduction of tides, No. 2.—Continued.

LOWER TRANSIT—Continued.

Moon's transit.	Lunitidal interval, low water.	Height of low water.	No. of observations.	Moon's transit.	Lunitidal interval, low water.	Height of low water.	No. of observations.	Moon's transit.	Lunitidal interval, low water.	Height of low water.	No. of observations.	Moon's transit.	Lunitidal interval, low water.	Height of low water.	No. of observations.
h. m.	*h. m.*	*Feet.*		*h. m.*	*h. m.*	*Feet.*		*h. m.*	*h. m.*	*Feet.*		*h. m.*	*h. m.*	*Feet.*	
0 01	18 59	1.08	.....	1 23	18 22	2.73	.....	2 00	18 00	1.85	.....	3 03	17 57	2.33	.....
0 51	18 09	1.38	.....	1 16	18 14	2.58	.....	2 45	17 45	1.79	.....	3 49	18 11	2.56	.....
0 41	18 19	1.13	.....	1 39	18 21	1.38	.....	2 25	17 50	1.75	.....	3 31	17 44	2.21	.....
0 15	18 45	0.96	.....	1 28	18 17	1.04	.....	2 17	17 43	1.33	.....	3 11	18 04	1.71	.....
0 08	18 37	1.10	.....	1 01	18 14	1.00	.....	2 36	17 39	1.29	.....	3 57	17 33	2.00	.....
0 59	18 16	1.17	.....	1 48	18 12	0.96	.....	2 55	17 35	1.46	.....	3 08	17 37	1.73	.....
0 28	18 32	1.13	.....	1 55	18 05	1.23	.....	2 06	17 39	2.10	.....	3 24	17 36	1.75	.....
0 40	18 25	2.54	.....	1 16	17 44	1.60	.....	2 56	17 19	2.35	.....	3 56	18 04	1.21	.....
0 00	18 15	2.08	.....	1 43	18 02	2.65	.....	2 47	17 38	2.77	.....	3 46	16 44	2.30	.....
												3 50	17 40	2.63	.....
0 28	18 31	1.86	15	1 23	18 05	1.98	15	2 28	17 45	2.14	15	3 29	17 39	2.41	16
4 21	17 39	2.58	.....	5 19	17 41	2.88	.....	6 27	18 03	2.75	.....	7 15	19 45	2.42	.....
4 21	16 39	2.92	.....	5 08	16 52	3.79	.....	6 13	18 47	3.17	.....	7 03	18 57	2.38	.....
4 06	17 54	2.71	.....	5 54	18 06	4.33	.....	6 40	18 20	3.83	.....	7 25	18 35	3.67	.....
4 59	18 01	2.92	.....	5 48	18 12	3.50	.....	6 33	18 27	3.88	.....	7 17	19 13	4.00	.....
4 35	17 10	3.58	.....	5 19	17 16	3.88	.....	6 04	17 26	4.31	.....	7 59	19 01	3.42	.....
4 27	17 33	2.92	.....	5 13	18 17	2.92	.....	6 51	18 09	4.21	.....	7 40	18 55	4.29	.....
4 02	17 28	3.33	.....	5 57	18 03	2.88	.....	6 41	18 19	2.88	.....	7 25	18 35	3.21	.....
4 47	17 13	3.31	.....	5 34	17 26	3.79	.....	6 24	17 36	4.55	.....	7 18	18 42	4.67	.....
4 35	17 55	2.61	.....	5 20	17 40	3.31	.....	6 05	17 40	3.46	.....	7 40	19 35	4.42	.....
4 45	17 45	2.63	.....	5 33	17 27	3.21	.....	6 52	19 08	4.88	.....	7 12	19 33	3.31	.....
4 03	17 12	2.25	.....	5 02	16 58	2.67	.....	6 22	17 38	3.08	.....	7 03	17 57	3.29	.....
4 14	17 01	2.38	.....	5 04	16 56	2.67	.....	6 02	16 58	3.13	.....	7 32	18 28	3.00	.....
4 58	17 17	2.69	.....	5 54	16 51	2.67	.....	6 44	18 16	3.07	.....	7 48	19 12	2.54	.....
4 37	16 53	2.58	.....	5 58	17 47	2.25	.....	6 55	18 35	2.88	.....	7 40	19 20	2.52	.....
4 49	17 41	2.69	.....	5 25	16 35	2.94	.....	6 11	17 19	2.96	.....	7 23	18 52	2.75	.....
				5 45	18 00	2.75	.....	6 56	18 34	2.79	.....				
								6 36	18 19	2.68	.....				
4 31	17 25	2 81	15	5 31	17 30	3.15	16	6 30	18 06	3.44	17	7 27	18 59	3.33	15
8 01	19 59	2.50	.....	9 36	19 24	1.33	.....	10 25	18 05	2.37	.....	11 18	18 42	1.13	.....
8 48	19 12	1.88	.....	9 01	18 59	3.75	.....	10 53	19 07	3.63	.....	11 55	18 35	3.63	.....
8 12	18 48	3.67	.....	9 55	19 05	3.75	.....	10 13	18 47	3.08	.....	11 01	19 29	3.00	.....
8 43	19 17	3.38	.....	9 27	19 33	3.42	.....	10 35	19 25	3.67	.....	11 51	19 09	2.96	.....
8 34	19 11	3.96	.....	9 32	18 58	3.88	.....	10 36	19 24	3.29	.....	11 41	18 19	3.46	.....
8 10	18 50	3.45	.....	9 46	19 14	3.38	.....	10 24	19 06	3.29	.....	11 25	18 35	3.36	.....
8 57	19 03	3.55	.....	9 19	19 26	3.67	.....	10 10	18 50	2.42	.....	11 26	18 34	2.81	.....
8 16	18 44	4.31	.....	9 20	19 40	3.50	.....	10 58	19 17	2.17	.....	11 45	18 45	2.22	.....
8 30	19 45	3.79	.....	9 11	19 34	3.40	.....	10 11	19 49	2.25	.....	11 08	19 07	1.50	.....
8 02	19 28	3.25	.....	9 39	19 21	1.88	.....	10 25	19 20	1.42	.....	11 11	18 49	1.13	.....
8 51	19 39	2.54	.....	9 52	19 08	2.00	.....	10 41	19 04	1.60	.....	11 56	18 34	0.00	.....
8 03	19 12	3.13	.....	9 04	19 41	1.65	.....	10 34	19 26	1.58	.....	11 29	18 46	1.29	.....
8 59	19 16	2.42	.....	9 49	19 26	1.83	.....	10 11	19 19	1.33	.....	11 19	18 41	1.48	.....
8 18	19 27	2.17	.....	9 25	19 20	1.83	.....	10 56	19 04	1.00	.....	11 41	18 34	0.98	.....
8 37	19 23	2.22	.....	9 09	19 21	1.69	.....	10 47	19 13	2.19	.....	11 41	18 44	2.21	.....
8 24	19 21	2.29	.....	9 56	19 04	1.75	.....	10 24	18 51	1.92	.....	11 11	18 49	2.02	.....
8 09	19 06	2.44	.....	9 39	18 36	2.00	.....								
8 54	19 21	2.31	.....												
8 28	19 17	2.96	18	9 31	19 17	2.63	17	10 31	19 08	2.33	16	11 29	18 46	2.07	16

SEMI-MENSUAL INEQUALITY.

The preceding "Tables for the reduction of tides, No. 2," contain all the observed lunitidal intervals and heights of high water and low water depending on the preceding upper and lower transits of the moon. The few interpolated values are marked by asterisks. None of the observed values were rejected. To obtain the values for the elucidation of the semi-mensual or half-monthly inequality in time and height, all the columns in these tables were summed up and their means taken. The mean values for upper and lower transits corresponding to the same or nearly the same hours of transit were again added, separately, for high water and low water, and their average values found. These latter constitute the values of the semi-mensual inequality in time and height. They are given in the following tables for high water and low water separately in the third, sixth, and ninth columns. The means of the twelve values of intervals and heights are the corrected or mean establishments, and the mean heights of high water and low water, respectively.

Semi-mensual or half-monthly inequality in time and height of high water.

Mean hour of moon's transit.		Mean hour of upper and lower transit.	Lunitidal interval depending on—		Mean of lunitidal intervals depending on upper and lower transits.	Height of high water following the preceding—		Mean height of high-water depending on upper and lower transits.
Upper.	Lower.		Upper transit.	Lower transit.		Upper transit.	Lower transit.	
h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	Feet.	Feet.	Feet.
0 29	0 28	0 28	12 25	12 23	12 24	7.25	7.19	7.22
1 29	1 27	1 28	12 03	12 08	12 05	7.20	7.28	7.24
2 30	2 28	2 29	11 47	11 46	11 46	7.02	7.04	7.03
3 28	3 29	3 29	11 26	11 27	11 27	6.67	6.88	6.78
4 31	4 31	4 31	11 20	11 12	11 16	6.19	6.23	6.21
5 32	5 31	5 31	11 13	11 15	11 14	5.63	5.82	5.73
6 31	6 30	6 31	12 08	11 50	11 59	5.34	5.44	5.39
7 28	7 27	7 28	12 49	12 34	12 42	5.43	5.43	5.43
8 28	8 28	8 28	13 05	13 06	13 06	5.89	5.69	5.79
9 26	9 31	9 29	13 08	13 05	13 07	6.20	6.25	6.23
10 27	10 31	10 29	13 00	12 58	12 59	6.53	6.71	6.62
11 29	11 29	11 29	12 48	12 41	12 45	7.09	7.05	7.07
Mean establishment of high water					12 14	Mean height of high water		6.39

Semi-mensual or half-monthly inequality in time and height of low water.

Mean hour of moon's transit.		Mean hour of upper and lower transit.	Lunitidal interval depending on—		Mean of lunitidal intervals depending on upper and lower transits.	Height of low water following the preceding—		Mean height of low-water depending on upper and lower transits.
Upper.	Lower.		Upper transit.	Lower transit.		Upper transit.	Lower transit.	
h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	Feet.	Feet.	Feet.
0 29	0 28	0 28	18 25	18 31	18 28	1.82	1.86	1.84
1 29	1 23	1 26	18 06	18 05	18 05	1.81	1.98	1.89
2 29	2 28	2 29	17 44	17 45	17 45	1.94	2.14	2.04
3 28	3 29	3 29	17 35	17 39	17 37	2.16	2.31	2.24
4 31	4 31	4 31	17 24	17 25	17 25	2.71	2.81	2.76
5 32	5 31	5 31	17 31	17 30	17 31	3.15	3.15	3.15
6 31	6 30	6 30	18 19	18 06	18 12	3.36	3.44	3.40
7 28	7 27	7 28	19 08	18 59	19 03	3.28	3.33	3.32
8 29	8 28	8 29	19 27	19 17	19 22	2.91	2.96	2.93
9 26	9 31	9 29	19 18	19 17	19 18	2.56	2.63	2.59
10 27	10 31	10 29	19 02	19 08	19 05	2.01	2.33	2.17
11 29	11 29	11 29	18 47	18 46	18 46	2.06	2.07	2.06
Mean establishment of low water					18 23	Mean height of low water		2.53

The recapitulation of the results obtained so far from the preceding tables is as follows:
From 379 observed high waters and from 380 observed low waters we find—

Mean establishment of high water	12^h 14^m
Mean establishment of low water	18 23
Mean duration of the fall of the tides	6 9
Mean duration of the rise of the tides	6 15.4
Mean height of high water	6^{ft}.39
Mean height of low water	2 .53
* Mean between mean high-water and low-water levels $\frac{6.39 + 2.53}{2} =$	4 .46
Mean rise and fall of the tide 6.39 — 2.53	3 .86
Mean high-water springs	7 .24
Mean low-water springs	1 .84
Hence spring-tide range	5 .40
Mean high-water neaps	5 .39
Mean low-water neaps	3 .40
Neap-tide range	1 .99
Highest high water in the whole series	9 .17
Lowest high water in the whole series	3 .67
Extreme fluctuation in high-water level	5 .50
Highest low water in the whole series	5 .38
Lowest low water in the whole series	0 .00
Extreme fluctuation in low-water level	5 .38

We shall now proceed to the investigation of the semi-mensual inequality as deduced in the preceding tables. The inequality or variation of the intervals or heights during the semi-lunation is usually expressed by the differences between the mean establishments or mean heights and the intervals or heights for each hour of the moon's transit.

According to the "wave theory" (Encyclopædia Metropolitana, article "Tides and Waves," by G. B. Airy), the semi-mensual inequality in time can be expressed by the formula—

$$\tan 2\ [\theta - \lambda] = - \frac{S_2 \,.\, \sin 2\ [m - s - a]}{M_2 + S_2 \,.\, \cos 2\ [m - s - a]} \qquad \text{(I)}$$

and that for the height by—

$$h = \pm \sqrt{M_3^2 + S_3^2 + 2\, M_3 \,.\, S_3 \,.\, \cos 2\, [m - s - a]} \qquad \text{(II)}$$

In equation I, the effect of the sun and moon on the elevations of the tidal spheroid is represented by S_2 and M_2, respectively; $(m - s)$ if expressed in arc is the angular distance of the moon from the sun; or it is the time which has elapsed since the moon has apparently passed the meridian of the place. θ is the angular distance of the pole of the tidal spheroid from the moon. This pole follows the moon at a certain distance or interval of time $= a$, which is to be found from observation.

The mean lunitidal interval or mean establishment λ corresponds to an hour-angle of the moon of $[m - s] - a$. This angle a is called the angle of retardation, and from it the age of the tide or the time elapsed between the moon's transit, which originated the tide, and the appearance of the tide itself, becomes known.

Determination of the Constants for the Inequalities in Time.—From the preceding tables we found—

Mean establishment of high water 12^h $14^m = \lambda$
Mean establishment of low water 18 23 $= \lambda$.

* In the investigation of the variation of the half-tide level as depending on the changes in the moon's declination, we found for the mean half-tide level corresponding to the mean declination of the moon the value 4^{ft}.459, which differs from the above by 0^{ft}.001 only.

The angle α if expressed in time, is that hour-angle of the moon's transit which corresponds to the interpolated mean establishment or interval; consequently,

For high water, the mean establishment $12^h\ 14^m$ corresponds to a transit of the moon at $0^h.53^m = \alpha$
For low water, the mean establishment $18^h\ 23^m$ corresponds to a transit of the moon at $0^h.42^m.6 = \alpha$

The values of S_2 and M_2 are deduced theoretically from the greatest range of the inequality by making $\frac{S_2}{M_2}$ equal to the sine of the difference between the least and greatest lunitidal intervals. Practically, however, it is preferable to deduce the range of the inequality graphically, as the numbers in the table are not free from incidental irregularities.

The values thus found are—

$$\text{For high water, } \frac{S_2}{M_2} = \sin\,[1^h 57^m] = 0.48862 = \frac{1}{2.0466}$$

$$\text{For low water, } \frac{S_2}{M_2} = \sin\,[1^h 58^m] = 0.49242 = \frac{1}{2.0307}$$

Substituting the enumerated constants in equation I we have—

$$\text{For high water, } \tan 2\,[\theta^h - 12^h 14^m] = -\frac{0.48862 \sin 2\,(m^h - s^h - 53^m)}{1 + 0.48862 \cos 2\,(m^h - s^h - 53^m)}$$
$$= -\frac{\sin 2\,(m^h - s^h - 53^m)}{2.04658 \cos 2\,(m^h - s^h - 53^m)}$$

$$\text{For low water, } \tan 2\,[\theta^h - 18^h 23^m] = -\frac{0.49242 \sin 2\,(m^h - s^h - 42^m.6)}{1 + 0.49242 \cos 2\,(m^h - s^h - 42^m.6)}$$
$$= -\frac{\sin 2\,(m^h - s^h - 42^m.6)}{2.0307 + \cos 2\,(m^h - s^h - 42^m.6)}$$

With these formulæ we computed the semi-mensual inequalities in time to the nearest minute. The result is given in the following table, and also graphically in the annexed diagram.

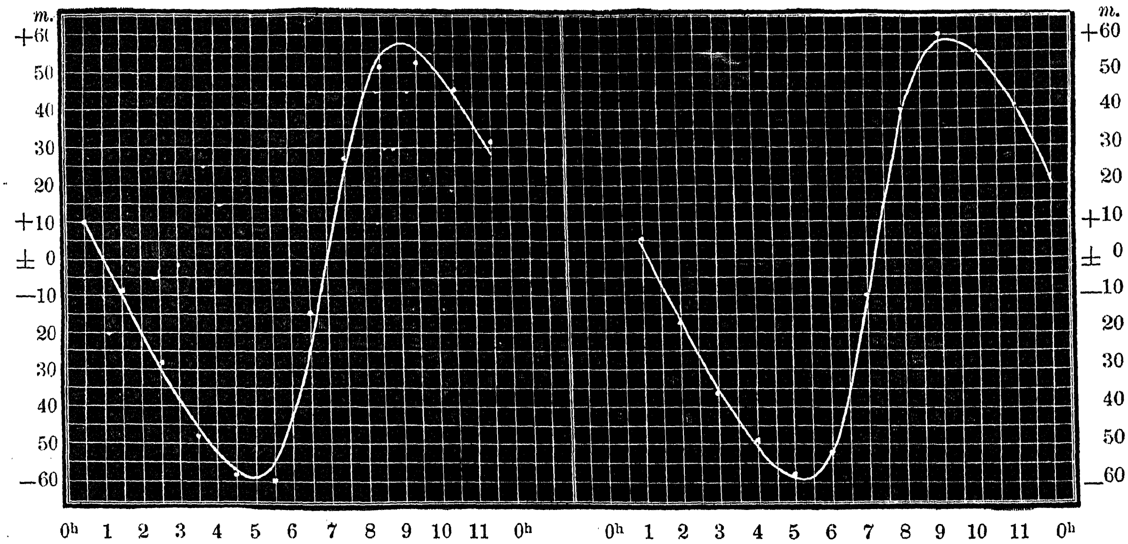
Semi-mensual inequality in time.

FOR HIGH WATER.					FOR LOW WATER.				
Mean solar time of moon's transit.	Observed lunitidal interval.	Inequality.		Difference.	Mean solar time of moon's transit.	Observed lunitidal interval.	Inequality.		Difference.
		Observed.	Computed.				Observed.	Computed.	
h. m.	*h. m.*	*m.*	*m.*	*m.*	*h. m.*	*h. m.*	*m.*	*m.*	*m.*
0 28	12 24	+10	+ 8	+2	0 28	18 28	+ 5	+ 5	±0
1 28	12 05	− 9	−11	+2	1 26	18 05	−18	−14	−4
2 29	11 46	−28	−30	+2	2 29	17 45	−38	−34	−4
3 29	11 27	−47	−47	±0	3 29	17 37	−46	−47	+1
4 31	11 16	−58	−58	±0	4 31	17 25	−58	−59	+1
5 31	11 14	−60	−54	−6	5 31	17 31	−52	−51	−1
6 31	11 59	−15	−20	+5	6 30	18 12	−11	−12	+1
7 28	12 42	+28	+31	−3	7 28	19 03	+40	+38	+2
8 28	13 06	+52	+57	−5	8 29	19 22	+59	+59	±0
9 29	13 07	+53	+56	−3	9 29	19 18	+55	+55	±0
10 29	12 59	+45	+44	+1	10 29	19 05	+42	+42	±0
11 29	12 44	+30	+27	+3	11 29	18 47	+24	+24	±0
Mean	12 14	Mean error		±2.6	Mean	18 23	Mean error		±1.2

The result, especially that for the low-water inequalities, appears satisfactory, the largest differences being not more than 6^m and 4^m, respectively.

Semi-mensual inequality in time.

For high water. For low water.



Determination of the Constants for the Inequality in Height.—In the expression for the inequality in height as given in equation II, the value $\frac{S_3}{M_3}$, or the ratio of the solar to the lunar tide, is deduced from the observed mean high-water and low-water springs and neaps as follows:

	Feet.
Mean high-water springs	= 7.24
Mean low-water springs	= 1.84
Hence effect of moon and sun $M_3 + S_3$	= 5.40
Mean high-water neaps	= 5.39
Mean low-water neaps	= 3.40
Hence effect of moon minus effect of sun, $M_3 - S_3$	= 1.99

The sum and difference being given we obtain—

$$M_3 = \frac{5.40 + 199}{2} = 3^{ft}.695, \text{ and } S_3 = \frac{5.40 - 1.99}{2} = 1^{ft}.705;$$

$$\text{Hence the ratio } \frac{S_3}{M_3} = \frac{1.705}{3.695} = 0.4614.$$

This ratio is exceptionally large in comparison with the values of $\frac{S_3}{M_3}$ deduced for other places; however, it seems to be quite in accordance with the large time values of $\frac{S_2}{M_2}$. The ratio deduced from the heights is usually smaller than that deduced from the times, which is also the case with our values, although the difference is not great.

For the computation of the inequality in height of high water, S_3 was made equal to half the difference between the observed mean high-water springs and high-water neaps, or—

$$S_3 = \frac{7.24 - 5.39}{2} = 0.925.$$

With the ratio above found, we get, then—

$$M_3 = \frac{0.925}{0.4614} = 2.0047.$$

$$S_3^2 = 0.8556,\ M_3^2 = 4.0192,\ S_3^2 + M_3^2 = 4.8748, \text{ and}$$
$$2 . S_3 . M_3 = 3.7087.$$

The angle of retardation α is determined from the heights by making α equal to that hour-angle or value of $(m-s)^{h}$, which corresponds to the maximum height; or, by taking for α that value of $(m-s)^{h}-6^{h}$ which corresponds to the minimum height. It is best however, to take the mean of the values thus found, which in our case is $0^{h}\ 56^{m}=\alpha$.

Substituting the constants determined above in equation II, we obtain for high water—

$$h=+\sqrt{4.8748+3.7087\,.\cos 2\left((m^{h}-s^{h})-0^{h}\ 56^{m}\right)}\ \text{(A)}$$

where h expresses the elevation of the pole of the tidal spheroid above a fixed level.

In the computation of the low-water inequality in height, we take for S_3 half the difference between the mean low-water neaps and low-water springs, which makes—

$$S_3=\frac{(3.40-1.84)}{2}=0.78;$$

consequently, we obtain—

$$M_3=\frac{0.78}{0.4614}=1.6905$$

$$S_3^2=0.6084,\ M_3^2=2.7227,\ S_3^2+M_3^2=3.3331,\ \text{and}$$
$$2\ S_3\,.\,M_3=2.5972.$$

The angle of retardation α for low water was deduced in the same way as that for high water, and corresponds to $0^{h}\ 48^{m}=\alpha$.

Substituting these values in equation II, we have for the expression of the low-water inequality in height—

$$h_1=-\sqrt{3.3331+2.5972\cos 2\left((m^{h}-s^{h})-0^{h}\ 48^{m}\right)}\ \text{(B)}$$

where h represents the depression of the pole of the inverted tidal spheroid below a fixed level.

With these two formulæ, A and B, we computed the values of h and h_1. To obtain the inequality proper, the mean value of h and h_1, of the two computed series, has to be found and subtracted from each single value of h and h_1, respectively; the difference will be the corresponding inequality.

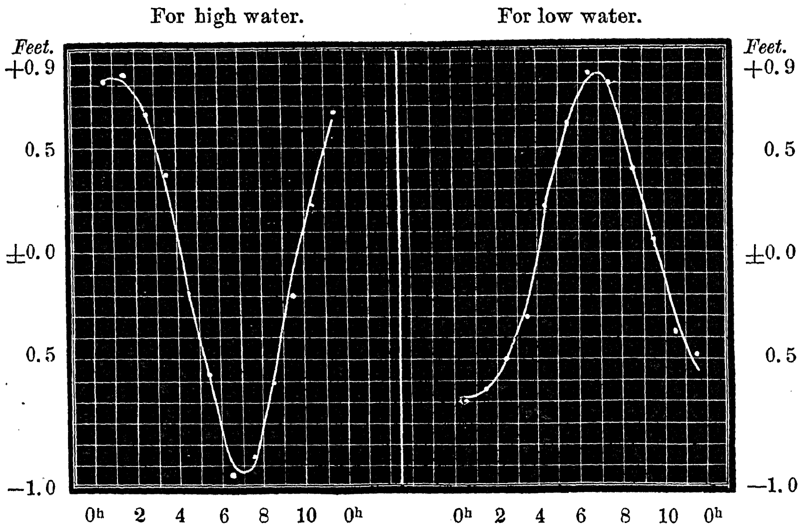
The close agreement between observed and computed values is shown in the table given below, and also in the diagram.

The largest difference between the observed and computed high-water and low-water inequality amounts to 1^{in} only.

Semi-mensual inequality in height.

For high water.						For low water.					
Mean solar time of moon's transit.	Observed		Computed		Difference.	Mean solar time of moon's transit.	Observed		Computed		Difference.
	Height.	Inequality.	$h=$	Inequality.			Height.	Inequality.	$h_1=$	Inequality.	
h. m.	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*h. m.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*
0 28	7.22	+0.83	+2.92	+0.81	+0.02	0 28	1.84	−0.69	−2.43	−0.69	±0.00
1 28	7.24	+0.85	+2.91	+0.80	+0.05	1 26	1.89	−0.64	−2.41	−0.67	+0.03
2 29	7.03	+0.64	+2.73	+0.62	+0.02	2 29	2.04	−0.49	−2.23	−0.49	±0.00
3 29	6.78	+0.39	+2.40	+0.29	+0.10	3 29	2.24	−0.29	−1.94	−0.20	−0.09
4 31	6.21	−0.18	+1.94	−0.17	−0.01	4 31	2.76	+0.23	−1.55	+0.19	+0.04
5 31	5.73	−0.66	+1.46	−0.65	−0.01	5 31	3.15	+0.62	−1.14	+0.60	+0.02
6 31	5.39	−1.00	+1.12	−0.99	−0.01	6 30	3.40	+0.87	−0.88	+0.86	+0.01
7 28	5.43	−0.96	+1.15	−0.96	±0.00	7 28	3.32	+0.81	−0.94	+0.80	+0.01
8 28	5.79	−0.60	+1.52	−0.59	−0.01	8 29	2.93	+0.40	−1.30	+0.44	−0.04
9 29	6.23	−0.16	+2.01	−0.10	−0.06	9 29	2.59	+0.06	−1.70	+0.04	+0.02
10 29	6.62	+0.23	+2.43	+0.32	−0.09	10 29	2.17	−0.36	−2.06	−0.32	−0.04
11 29	7.07	+0.68	+2.75	+0.64	+0.04	11 29	2.06	−0.47	−2.31	−0.57	+0.10
Mean..	6.39	....	+2.11	Mean error } =	±0.035	Mean..	2.53	....	−1.74	Mean error } =	±0.033

Semi-mensual inequality in height.



The mean rise and fall of the tides deduced from observation was found to be $6^{ft}.39 - 2^{ft}.53 = 3^{ft}.86$. The computed mean elevation of high water above a fixed level is $h = 2^{ft}.11$, and the mean depression of low water $h_1 = -1^{ft}.74$. This gives mean elevation minus mean depression, or mean rise and fall from computation, $2^{ft}.11 - (-1^{ft}.74) = 3^{ft}.85$, which agrees within $\frac{1}{10}^{in}$ with the value from observation.

In the following diagram we use the values of h and h_1 of the preceding table for the construction of the curves of the semi-mensual inequality in height, for the purpose of determining the semi-mensual inequality in the mean levels between high water and low water, corresponding to the same hour of the moon's transit.

The diagram is constructed thus:

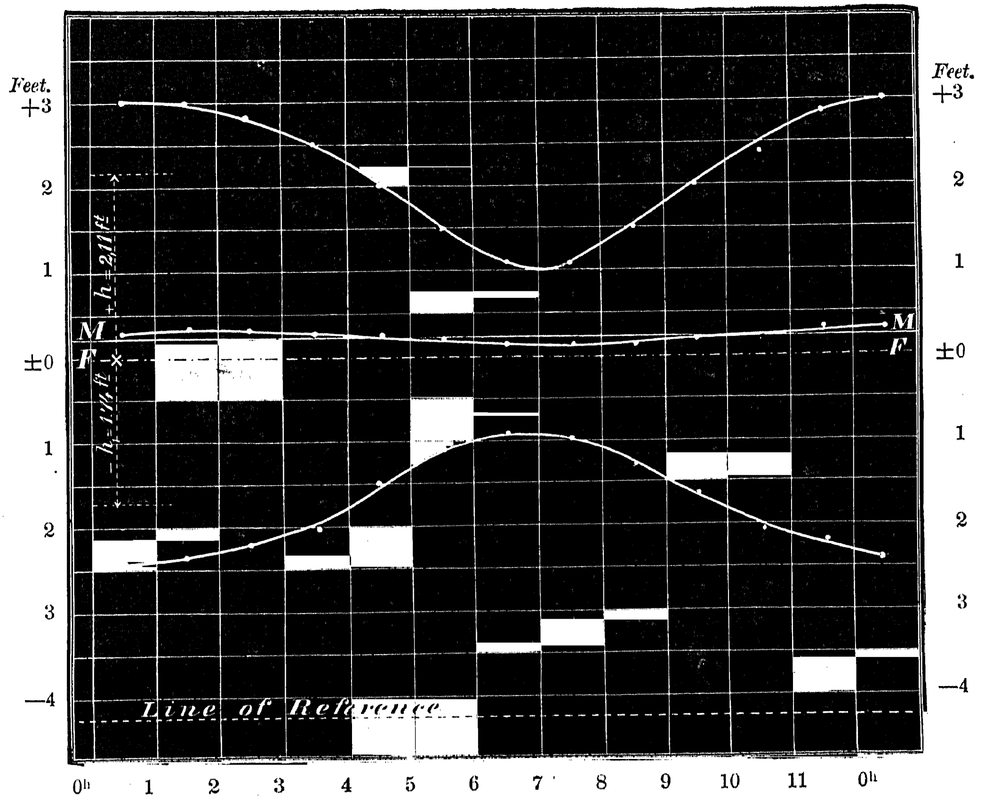
From a fixed level, FF, the values of h and h_1 are measured off as ordinates, respectively, for high water above and low water below FF for each hour of transit. The points thus obtained are connected by full lines, and represent the curves of the computed semi-mensual inequality of high water and low water, and the vertical distances between them represent the rise and fall for each hour of transit. For comparison with the observed values we measure off $h = 2^{ft}.11$ as ordinates above and $h_1 = -1^{ft}.74$ below FF, and find MM, the mean of h and h_1. Below this mean level MM we measure $4^{ft}.46$, which is the mean between the average high-water and low-water levels as found from observation—

$$\left(\frac{6^{ft}.39 + 2^{ft}.53}{2} = 4^{ft}.46. \right).$$

This gives us a line of reference from which the observed heights of high water and low water as given in the preceding table were plotted as ordinates and represented by points.

To obtain the variation or semi-mensual inequality in the mean level between high water and low water, the mean height between each high-water and the corresponding low-water level was found. The points derived from the computed values are connected by full lines, those from the observed values are represented by dotted ones.

The semi-mensual inequality in the mean level is very distinctly expressed by the numerical values derived from the observations and represented in the diagram. Its range is very small, amounting to about 2^{in} only. For hours of transit between 11^h and 5^h this inequality is positive, or above its mean, while it is negative for the remaining hours. The appended table gives the result for each hour of transit:



Semi-mensual inequality in the mean level.

Hour of moon's transit.	Mean level.		Inequality.		Difference.
	Observed.	Computed.	Observed.	Computed.	
h. m.	Feet.	Feet.	Feet.	Feet.	Feet.
0 28	4.530	4.520	+0.070	+0.060	+0.010
1 27	4.565	4.525	+0.105	+0.065	+0.040
2 29	4.535	4.525	+0.075	+0.065	+0.010
3 29	4.510	4.505	+0.050	+0.045	+0.005
4 31	4.485	4.470	+0.025	+0.010	+0.015
5 31	4.440	4.435	—0.020	—0.025	+0.005
6 30	4.395	4.395	—0.065	—0.065	±0.000
7 28	4.375	4.390	—0.085	—0.070	—0.015
8 28	4.360	4.385	—0.100	—0.075	—0.025
9 29	4.410	4.430	—0.050	—0.030	—0.020
10 29	4.395	4.460	—0.065	±0.000	—0.070
11 29	4.565	4.495	+0.110	+0.035	+0.060
Mean values	4.463	4.461	....	Mean error ...	= ± 0.023

NOTE.—The third decimals are only approximate.

AGE OF THE TIDE.

The mean retard of the tide as deduced from the time inequalities is $a = \frac{1}{2}$ ($0^h\ 53^m + 0^h\ 42^m.6$) $= 0^h\ 47^m.8$. The age of the tide is found by dividing this quantity a, expressed in minutes of time, by 48.8, (the mean separation in right ascension of the moon from the sun in a solar day.) This gives for the age of the tide $\frac{47.8}{48.8} = 0.9795$ days, or 23.5 hours. The mean value of a from the height inequalities is $a = \frac{1}{2}$ ($0^h\ 56^m + 0^h\ 48^m$) $= 0^h\ 52^m$; therefore the age of the tide is $\frac{52}{48.8} =$ 1.065 days, or 25.5 hours. The mean age therefore is $\frac{23.5 + 25.5}{2} = 24.5$ hours.

EFFECT OF CHANGES IN THE MOON'S PARALLAX ON THE SEMI-MENSUAL INEQUALITY IN TIME AND HEIGHT.

As the semi-mensual inequality deduced in the preceding discussion is not a constant value, but dependent on the varying declinations of the sun and moon, and on their distances from the earth, a certain correction will be required on that account. It has been fully proved by Mr. Whewell, in accordance with the theoretical law, that this correction depends on the simple ratio between the moon's parallax and its mean value. In the investigation of this subject it was found by others that the best results are obtained by making use of the parallax corresponding to an epoch anterior to the time when the effect takes place, by the amount of the retard of the tide. We found the mean retard of the tides at Polaris Bay to be about 24 hours. The parallaxes were accordingly taken from the Nautical Almanac for a time earlier by 24 hours than each corresponding high-water or low-water epoch of the series. The lunitidal intervals and heights were then classed for hours of moon's transit between 0^h and 1^h, 1^h and 2^h, &c., and the mean parallax for each hour found. The mean parallax for the series from the values for each hour is 57′.22 for both high water and low water. In order to obtain as many values as possible in a group we separated the lunitidal intervals and heights for each hour into two groups only, viz, the values corresponding to parallaxes below and those above the mean value for each hour. The resulting means of the separated groups are given for time and height in Table A for high water, and in Table B for low water. For the sake of comparison we also give the values of the semi-mensual inequality in the middle groups of the tables.

TABLE A.—*For the determination of the effect of the moon's parallax on the semi-mensual inequality of high water.*

FOR TIMES AND HEIGHTS OF HIGH WATER.														
Average mean parallax =														
55′.26.					57′.22.					59′.19.				
Hour of moon's transit.	Lunitidal interval.	Height.	Mean parallax for each hour of transit.	No. of observations.	Hour of moon's transit.	Lunitidal interval.	Height.	Mean parallax for each hour of transit.	No. of observations.	Hour of moon's transit.	Lunitidal interval.	Height.	Mean parallax for each hour of transit.	No. of observations.
h. m.	*h. m.*	*Feet.*	′		*h. m.*	*h. m.*	*Feet.*	′		*h. m.*	*h. m.*	*Feet.*	′	
0 26	12 30	7.14	55.54	15	0 28	12 24	7.22	57.77	30	0 30	12 18	7.31	59.99	15
1 28	12 14	7.05	55.67	16	1 28	12 05	7.24	57.79	30	1 28	11 57	7.46	60.21	14
2 30	11 52	6.88	55.61	15	2 29	11 46	7.03	57.72	30	2 29	11 41	7.17	59.84	15
3 28	11 35	6.56	55.55	15	3 29	11 27	6.78	57.53	30	3 29	11 18	7.00	59.51	15
4 31	11 25	6.17	55.40	16	4 31	11 16	6.21	57.25	31	4 30	11 07	6.26	59.20	15
5 31	11 11	5.68	55.04	17	5 31	11 14	5.73	56.66	32	5 31	11 17	5.77	58.49	15
6 31	12 04	5.11	55.03	16	6 31	11 59	5.39	56.63	32	6 29	11 53	5.68	58.22	16
7 32	12 54	5.26	55.04	17	7 28	12 42	5.43	56.57	32	7 26	12 26	5.62	58.30	15
8 29	13 24	5.56	54.93	17	8 28	13 06	5.79	56.62	33	8 27	12 45	6.02	58.41	16
9 27	13 18	6.10	55.08	15	9 29	13 07	6.23	57.21	33	9 29	12 56	6.33	58.97	18
10 28	13 10	6.46	55.24	17	10 29	12 59	6.62	57.34	34	10 30	12 48	6.76	59.44	17
11 28	12 56	6.95	55.00	15	11 29	12 44	7.07	57.50	32	11 30	12 35	7.17	59.68	17
Mean values	12 23	6.24	55.26	Total, 191	Mean values	12 14	6.39	57.22	Total, 379	Mean values	12 05	6.54	59.19	Total, 188

TABLE B.—*For determining the effect of the moon's parallax on the semi-mensual inequality of low water.*

FOR TIMES AND HEIGHTS OF LOW WATER. Mean parallax = 55′.29.					Mean parallax = 57′.22.					Mean parallax = 59′.20.				
Hour of moon's transit.	Lunitidal interval.	Height.	Mean parallax for each hour of transit.	No. of observations.	Hour of moon's transit.	Lunitidal interval.	Height.	Mean parallax for each hour of transit.	No. of observations.	Hour of moon's transit.	Lunitidal interval.	Height.	Mean parallax for each hour of transit.	No. of observations.
h. m.	*h. m.*	*Feet.*	′		*h. m.*	*h. m.*	*Feet.*	′		*h. m.*	*h. m.*	*Feet.*	′	
0 27	18 34	2.16	55.54	15	0 28	18 28	1.84	57.77	30	0 29	18 21	1.51	59.96	15
1 27	18 10	2.07	55.55	15	1 26	18 05	1.89	57.80	30	1 30	18 01	1.72	60.00	15
2 31	17 47	2.19	55.60	15	2 29	17 45	2.04	57.70	30	2 28	17 44	1.82	59.78	15
3 28	17 39	2.49	55.64	16	3 29	17 37	2 24	57.47	30	3 29	17 35	2.06	59.55	14
4 30	17 26	3.06	55.48	17	4 31	17 25	2.76	57.13	31	4 31	17 24	2.39	59.12	14
5 31	17 28	3.45	55.03	17	5 31	17 31	3.15	56.60	32	5 29	17 34	2.81	58.38	15
6 33	18 25	3.46	55.11	17	6 30	18 12	3.40	56.58	32	6 28	17 57	3.34	58.24	15
7 29	19 22	3.49	55.06	17	7 28	19 03	3.32	56.60	32	7 25	18 43	3.15	58.35	15
8 28	19 35	3.15	54.97	17	8 29	19 22	2.93	56.75	34	8 29	19 07	2.72	58.54	17
9 29	19 29	2.79	55.13	15	9 29	19 18	2.59	57.30	33	9 27	19 08	2.43	59.10	18
10 26	19 14	2.28	55.39	18	10 29	19 05	2.17	57.41	34	10 31	18 54	2.02	59.68	16
11 28	18 52	2.39	55.04	15	11 29	18 47	2.06	57.53	32	11 31	18 40	1.78	59.74	17
Mean value	18 30	2.75	55.29	Total, 194	Mean value	18 23	2.53	57.22	Total, 380	Mean value	18 16	2.31	59.20	Total, 186

From the above tables it appears that the non-periodical effect of a change in the lunar parallax on the mean establishments and mean heights of high water and low water is very nearly expressed by the following formulæ:

$12^h\ 14^m - 4^m.6\ [P - 57'.22]$ for high-water establishments.

$18^h\ 23^m - 3^m.7\ [P - 57'.22]$ for low-water establishments.

$6^{ft}.39 + 0^{ft}.078\ [P - 57'.22]$ for mean high-water heights.

$2^{ft}.53 - 0^{ft}.113\ [P - 57'.22]$ for mean low-water heights.

Or, in other words—

(*a.*) *For the times:* As the parallax *increases*, the mean establishments *decrease* for high water on the average by nearly $4^m.6$, and for low water by nearly $3^m.7$, for 1′ of parallactic change.

(*b.*) *For the heights:* As the parallax *increases* 1′, the mean heights of high water *increase* at the rate of nearly $0^{ft}.078$, while the mean heights of low water *decrease* at the rate of about $0^{ft}.113$.

The angle of retardation α, and, consequently, the age of the tide, *increases* with an increase of parallax for times as well as for heights.

The periodical effect on the semi-mensual inequality in time and height is exhibited in Tables C and D, which contain the differences or inequalities of each lunitidal interval or height from its mean value in the last horizontal lines of the preceding tables.

TABLE C.—*Periodical effect of the moon's parallax on the semi-mensual inequality of high water.*

ON THE TIMES OF HIGH WATER.						ON THE HEIGHTS OF HIGH WATER.					
Parallax =						Parallax =					
55′.26		57′.22		59′.19		55′.26		57′.22		59′.19	
Hour of moon's transit.	Inequality.	Hour of moon's transit.	Inequality.	Hour of moon's transit.	Inequality.	Hour of moon's transit.	Inequality.	Hour of moon's transit.	Inequality.	Hour of moon's transit.	Inequality.
h. m.	*m.*	*h. m.*	*m.*	*h. m.*	*m.*	*h. m.*	*Feet.*	*h. m.*	*Feet.*	*h. m.*	*Feet.*
0 26	+ 7	0 28	+ 10	0 30	+ 13	0 26	+0.90	0 28	+0.83	0 30	+0.74
1 27	− 9	1 28	− 9	1 28	− 8	1 27	0.81	1 28	0.85	1 28	0.92
2 30	31	2 29	28	2 29	24	2 30	0.64	2 29	0.64	2 29	0.63
3 28	48	3 29	47	3 29	47	3 28	+0.32	3 29	+0.39	3 29	+0.46
4 31	58	4 31	58	4 30	58	4 31	−0.07	4 31	−0.18	4 30	−0.28
5 31	72	5 31	60	5 31	48	5 31	0.56	5 31	0.66	5 31	0.77
6 31	− 19	6 31	− 15	6 29	− 12	6 31	1.13	6 31	1.00	6 29	0.86
7 32	+ 31	7 28	+ 28	7 26	+ 21	7 32	0.98	7 28	0.96	7 26	0.92
8 29	61	8 28	52	8 27	40	8 29	0.68	8 28	0.60	8 27	0.52
9 27	55	9 29	53	9 29	51	9 27	−0.14	9 29	−0.16	9 29	−0.21
10 28	47	10 29	45	10 30	43	10 28	+0.22	10 29	+0.23	10 30	+0.22
11 28	+ 33	11 29	+ 30	11 30	+ 30	11 28	+0.71	11 29	+0.68	11 30	+0.63
Range...	133	....	113	....	109	Range...	2.03	....	1.85	....	1.84

TABLE D.—*Periodical effect of the moon's parallax on the semi-mensual inequality of low water.*

ON THE TIMES OF LOW WATER.						ON THE HEIGHTS OF LOW WATER.					
Parallax =						Parallax =					
55′.29		57′.22		59′.20		55′.29		57′.22		59′.20	
Hour of moon's transit.	Inequality.	Hour of moon's transit.	Inequality.	Hour of moon's transit.	Inequality.	Hour of moon's transit.	Inequality.	Hour of moon's transit.	Inequality.	Hour of moon's transit.	Inequality.
h. m.	*m.*	*h. m.*	*m.*	*h. m.*	*m.*	*h. m.*	*Feet.*	*h. m.*	*Feet.*	*h. m.*	*Feet.*
0 27	+ 4	0 28	+ 5	0 29	+ 5	0 27	−0.59	0 28	−0.69	0 29	−0.80
1 27	− 20	1 26	− 18	1 30	− 15	1 27	0.68	1 26	0.64	1 30	0.59
2 31	43	2 29	38	2 28	32	2 31	0.56	2 29	0.49	2 28	0.49
3 28	51	3 29	46	3 29	41	3 28	−0.26	3 29	−0.29	3 29	−0.25
4 30	64	4 31	58	4 31	52	4 30	+0.31	4 31	+0.23	4 31	+0.08
5 31	62	5 31	52	5 29	42	5 31	0.70	5 31	0.62	5 29	0.50
6 33	− 5	6 30	− 11	6 28	− 19	6 33	0.71	6 30	0.87	6 28	1.03
7 29	+ 52	7 28	+ 40	7 25	+ 27	7 29	0.74	7 28	0.81	7 25	0.84
8 28	65	8 29	59	8 29	51	8 28	0.40	8 29	0.40	8 29	0.41
9 29	59	9 29	55	9 27	52	9 29	+0.04	9 29	+0.06	9 27	+0.12
10 26	44	10 29	42	10 31	38	10 26	−0.47	10 29	−0.36	10 31	−0.29
11 28	+ 22	11 29	+ 24	11 31	+ 24	11 28	−0.36	11 29	−0.47	11 31	−0.53
Range...	129	....	117	....	104	Range ..	1.42	....	1.56	....	1.83

The inequality ranges, as given in these tables, are the algebraical differences between the largest inequalities with opposite signs. They will differ somewhat from the true ranges on account of incidental irregularities in the numbers of the tables, and when deduced graphically the ranges

will probably be more approximate. The ranges appear to be governed by the following general law:

(*a.*) *For the times:* As the parallax *increases* the ranges *decrease* both for high water and low water.

(*b.*) *For the heights:* An *increase* of parallax appears to *decrease* the range of the high-water inequalities, while for low water the range will *increase.*

The law respecting the ranges, as deduced from the tides at Port Foulke* (latitude 78° 18′ N., longitude 73° W)., is the same as the above for high-water and low-water times and for high-water heights; for low-water heights, however, the law is the reverse, although, as stated in the discussion, this result is not regarded as fully established.

In the following table the periodical effect is also shown in form of a correction to be applied to the semi-mensual inequality in time and height, as deduced approximately from the ratio between the values, when P is below and above the mean parallax 57′.22. The correction in the column headed "P = 57′.22" has to be added to the semi-mensual inequality, which is also given in the table. The adjoining column contains the approximate correction for each minute of parallactic increase or decrease, to be added to the semi-mensual inequality for P = 57′.22, the former with the upper the latter with the lower sign:

Correction of the semi-mensual inequality in time and height for the periodical effect of changes in the moon's parallax.

Approximate hour of moon's transit.	FOR HIGH WATER.						FOR LOW WATER.					
	Semi-mensual inequality in—		Correction of the semi-mensual inequality—				Semi-mensual inequality in—		Correction of the semi-mensual inequality—			
			For P = 57′.22.		For each minute increase or decrease of P= 57′.22 for—				For P = 57′.22.		For each minute increase or decrease of P= 57′.22 for—	
	Time.	Height.	Time.	Height.	Time.	Height.	Time.	Height.	Time.	Height.	Time.	Height.
h. *m.*	*m.*	*Feet.*	*m.*	*Feet.*	*m.*	*Feet.*	*m.*	*Feet.*	*m.*	*Feet.*	*m.*	*Feet*
0 30	+10	+0.83	+1.5	−0.02	±2.7	±0.038	+ 5	−0.69	+1.6	+0.08	∓2.9	∓0.147
1 30	− 9	0.85	2.1	0.05	3.7	0.090	−18	0.64	1.2	0.05	2.0	0.081
2 30	28	0.64	1.2	0.03	2.6	0.069	38	0.49	0.3	0.04	0.7	0.088
3 30	47	+0.39	1.3	−0.03	4.3	0.111	46	−0.29	+0.2	+0.03	1.0	0.110
4 30	58	−0.18	+0.1	±0.00	∓4.7	0.023	58	+0.23	±0.0	−0.02	∓0.5	0.184
5 30	60	0.66	−0.9	∓0.01	±1.7	0.026	52	0.62	−1.1	0.12	±1.8	0.191
6 30	−15	1.00	2.0	0.10	∓3.4	0.179	−11	0.87	5.7	0.02	∓8.9	0.035
7 30	+28	0.96	5.6	0.07	8.6	0.110	+40	0.81	7.4	0.06	11.9	0.103
8 30	52	0.60	−6.7	+0.08	11.2	0.132	59	0.40	−3.7	−0.06	7.8	0.120
9 30	53	−0.16	±0.0	±0.00	5.6	0.059	55	+0.06	+0.4	+0.01	5.3	0.088
10 30	45	+0.23	∓0.6	−0.01	5.3	0.070	42	−0.36	1.1	0.01	4.7	0.060
11 30	+30	+0.68	+1.3	−0.01	∓4.5	±0.048	+24	−0.47	+0.8	+0.04	∓2.6	∓0.129
Mean values	....	....	+0.6	+0.01	∓4.6	±0.080	....	....	−1.0	±0.0	∓3.8	∓0.111

From the above table it appears that the corrections for the times are positive or negative, according as the parallax decreases or increases, for all hours of transit, except for that between 5^h and 6^h, where the reverse is the case. This exception does not appear to be due to incidental irregularity in the numbers, as it is noticeable for both high-water and low-water times for the same hour of transit. The corrections for the high-water heights are positive, and those for low water heights negative, for all hours of transit for increasing, and the reverse for decreasing parallax.

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* Physical Observations in the Arctic Seas, by I. I. Hayes. Reduced and discussed by Charles A. Schott. Smithsonian Contributions to Knowledge, 196. Washington City, Smithsonian Institution, 1867, p. 104.

The effect of changes in the sun's parallax on the semi-mensual inequality is smaller than that of the moon, and, therefore, it is more difficult to trace. As no reliable results could be obtained from so short a series of observations as ours, this subject was not investigated.

EFFECT OF CHANGES IN THE MOON'S DECLINATION ON THE SEMI-MENSUAL INEQUALITY IN TIME AND HEIGHT OF HIGH WATER AND OF LOW WATER.

To obtain perfectly reliable results of the declination effect of the moon, a much longer series of observations is needed than the one on hand. Our results, therefore, will only be approximate, especially those concerning the periodical effect or variation of the semi-mensual inequality for different values of declination.

The method used in the investigation of this effect is the same as for the parallactic effect. We first found the mean declination D for each hour of transit, and then separated the lunitidal intervals and heights into two groups of values corresponding to D below and D above the mean declination for each hour of transit. The number of observations was too small to allow us to form more than two groups. The declinations were taken from the Nautical Almanac for a period earlier by 24 hours, or by the amount of the age of the tide, than the corresponding time of high water or low water. No distinction was made in the tabulation between upper and lower transits, nor in regard to the sign of declination. Table A contains the resulting mean values for each hour of transit for the times and heights of high water; and Table B for those of low water. For convenience' sake, the lunitidal intervals and heights of the semi-mensual inequality are also given.

TABLE A.—*For the determination of the effect of the moon's declination on the semi-mensual inequality of high water.*

FOR TIMES AND HEIGHTS OF HIGH WATER.												
Approximate hour of moon's transit.	Average mean declination =											
	7°.8.				15°.5.				21°.5.			
	Lunitidal interval.	Height.	Mean declination for each hour of transit.	No. of observations.	Lunitidal interval.	Height.	Mean declination for each hour of transit.	No. of observations.	Lunitidal interval.	Height.	Mean declination for each hour of transit.	No. of observations.
h. m.	*h. m.*	*Feet.*	°		*h. m.*	*Feet.*	°		*h. m.*	*Feet.*	°	
0 30	12 28	6.88	8.7	13	12 24	7.22	15.4	30	12 22	7.48	20.4	17
1 30	12 11	6.89	7.4	13	12 05	7.24	15.5	30	12 02	7.51	21.6	17
2 30	11 55	7.01	8.5	14	11 46	7.03	15.9	30	11 40	7.04	22.3	16
3 30	11 32	6.99	8.7	13	11 27	6.78	16.4	30	11 23	6.62	22.4	17
4 30	11 32	6.75	8.5	13	11 16	6.21	16.6	31	11 05	5.82	22.5	18
5 30	11 33	6.34	7.6	12	11 14	5.73	16.9	32	11 02	5.35	22.5	
6 30	11 58	6.09	8.8	14	11 59	5.39	16.0	32	11 59	4.85	21.6	-20
7 30	12 44	5.81	7.6	15	12 42	5.43	14.8	32	12 40	5.09	20.9	18
8 30	13 00	5.89	7.8	16	13 06	5.79	14.9	33	13 13	5.67	21.5	17
9 30	13 09	6.21	7.4	17	13 07	6.23	14.0	33	13 03	6.24	21.0	17
10 30	12 48	6.41	6.7	15	12 59	6.62	14.3	34	13 08	6.77	20.4	16
11 30	12 40	6.61	6.2	14	12 44	7.07	15.7	32	12 49	7.43	20.6	19
												18
Mean values	12 17.5	6.49	7.8	Total, 169	12 14	6.39	15.5	Total, 379	12 12.2	6.32	21.5	Total, 210

TABLE B.—*For the determination of the effect of the moon's declination on the semi-mensual inequality of low water.*

FOR TIMES AND HEIGHTS OF LOW WATER.												
Approximate hour of moon's transit.	Average mean declination =											
	8°.1.				15°.5.				21°.6.			
	Lunitidal interval.	Height.	Mean declination for each hour of transit.	No. of observations.	Lunitidal interval.	Height.	Mean declination for each hour of transit.	No. of observations.	Lunitidal interval.	Height.	Mean declination for each hour of transit.	No. of observations.
h. *m.*	*h.* *m.*	*Feet.*	°		*h.* *m.*	*Feet.*	°		*h.* *m.*	*Feet.*	°	
0 30	18 29	1.29	8.9	13	18 28	1.84	15.5	30	18 26	2.25	20.5	17
1 30	18 13	1.48	8.0	12	18 05	1.89	16.1	30	17 59	2.17	21.5	18
2 30	17 50	1.92	7.4	12	17 45	2.04	15.9	30	17 40	2.13	21.6	18
3 30	17 45	2.37	9.2	14	17 37	2.24	16.3	30	17 30	2.22	22.5	16
4 30	17 35	3.13	7.5	13	17 25	2.76	16.0	31	17 17	2.48	22.2	18
5 30	17 47	3.52	8.7	14	17 31	3.15	16.4	32	17 18	2.87	22.4	18
6 30	18 09	3.72	9.0	13	18 12	3.40	15.6	32	18 14	3.18	22.3	19
7 30	19 00	3.29	8.1	16	19 03	3.32	14.4	32	19 06	3.37	20.7	16
8 30	19 17	2.62	8.0	17	19 22	2.93	15.0	34	18 25	3.24	21.9	17
9 30	19 11	2.22	6.9	16	19 18	2.59	14.0	33	19 23	2.94	20.6	17
10 30	18 58	1.53	7.0	16	19 05	2.17	14.4	34	19 12	2.72	20.9	18
11 30	18 37	1.68	8.9	15	18 47	2.06	15.9	32	18 54	2.40	22.0	17
Mean values	18 24.2	2.40	8.1	Total, 171	18 23	2.53	15.5	Total, 380	18 22	2.66	21.6	Total, 209

The results for the non-periodical effect as expressed by the mean establishments and mean heights in the preceding tables are as follows:

(*a.*) *For the times:* When the moon's declination increases the mean intervals decrease for high water and for low water. The total decrease between zero and maximum declination is, approximately, from 6 to 7 inches for high water, and 3 to 4 inches for low water.

(*b.*) *For the heights:* An increase in the moon's declination appears to be followed by a slight decrease in the mean heights of high water, and by an increase of about 5^{in} between zero and maximum declination in the mean heights of low water.

(*c.*) *For the angle of retardation or age of the tide:* By a graphical process we find that an increase of declination corresponds to a decrease in the angle of retardation a, for the times as well as for the heights of high water and low water. The decrease is nearly the same for the times of high water and low water, and amounts to about 5 minutes between D = 8° and 15°.5, and to about 4 minutes between D = 15°.5 and 21°.5.

Periodical effect: The periodical effect of changes in the moon's declination is exhibited in Tables C and D for high water and low water separately. The inequalities are the differences between each lunitidal interval and height and its mean value in the last horizontal line of each of the preceding tables.

TABLE C.—*Periodical effect of the moon's declination on the semi-mensual inequality of high water.*

Approximate hour of moon's transit.	FOR THE TIMES OF HIGH WATER.			FOR THE HEIGHTS OF HIGH WATER.		
	Declination =			Declination =		
	7°.8.	15°.5.	21°.5.	7°.8.	15°.5.	21°.5.
h. m.	*m.*	*m.*	*m.*	*Feet.*	*Feet.*	*Feet.*
0 30	+11	+ 10	+ 10	+0.39	+0.83	+1.16
1 30	— 6	— 9	— 10	0.40	0.85	1.19
2 30	22	28	32	0.52	0.64	0.72
3 30	45	47	49	0.50	+0.39	+0.30
4 30	45	58	67	+0.26	—0.18	—0.50
5 30	44	60	70	—0.15	0.66	0.97
6 30	—19	— 15	— 13	0.40	1.00	1.47
7 30	+27	+ 28	+ 28	0.68	0.96	1.23
8 30	43	52	61	0.60	0.60	0.65
9 30	52	53	51	0.28	—0.16	—0.08
10 30	31	45	56	—0.08	+0.23	+0.45
11 30	+23	+ 31	+ 37	+0.12	+0.68	+1.11
Range.	97	113	131	1.20	1.85	2.66

TABLE D.—*Periodical effect of the moon's declination on the semi-mensual inequality of low water.*

Approximate hour of moon's transit.	FOR THE TIMES OF LOW WATER.			FOR THE HEIGHTS OF LOW WATER.		
	Declination =			Declination =		
	8°.1.	15°.5.	21°.6.	8°.1.	15°.5.	21°.6.
h. m.	*m.*	*m.*	*m.*	*Feet.*	*Feet.*	*Feet.*
0 30	+ 5	+ 5	+ 4	—1.11	—0.69	—0.41
1 30	— 11	— 18	— 23	0.92	0.64	0.49
2 30	34	38	42	0.48	0.49	0.53
3 30	39	46	52	—0.01	—0.29	0.44
4 30	49	58	65	+0.73	+0.23	—0.18
5 30	37	52	64	1.12	0.62	+0.21
6 30	— 15	— 11	— 8	1.32	0.87	0.52
7 30	+ 36	+ 40	+ 44	0.89	0.81	0.71
8 30	53	59	63	+0.22	0.40	0.58
9 30	47	55	61	—0.18	+0.06	0.28
10 30	34	42	50	0.87	—0.36	+0.06
11 30	+ 13	+ 24	+ 32	—0.72	—0.47	—0.26
Range.	102	117	128	2.43	1.56	1.24

The ranges as given in the last horizontal line of each table are merely the algebraical differences between the largest positive and negative inequality values in each column.

From the above tables it becomes evident that—

(*a*.) *For the times:* An increase of the declination is followed by an increase in the range of high water and of low water; the increase appearing to be larger for the former than for the latter.

(*b*.) *For the heights:* An increase of declination increases the range of high water while it decreases the range of low water.

By comparing the above ranges with those of the parallactic effect we find them to follow the contrary law, when both declination and parallax increase or decrease.

Before closing this subject we will add the result of a second investigation of the declination effect, intended mainly as a check upon the first. The method we followed was similar to the one used before, only that we separated the lunitidal intervals and heights into three groups of values for declinations between 0° and 12°, 12° and 21°, and 21° and 25°.

As it would require too much space to print the complete tables, we merely give the condensed result in the following table of the mean intervals, mean heights, and ranges of inequality in time and height, to which we add the values of the first investigation to facilitate comparison.

Table of mean establishments, mean heights, and inequality ranges depending on changes in the moon's declination.

FOR HIGH WATER.						FOR LOW WATER.					
Number of observations.	Average declination.	Corrected or mean establishment.	Mean height.	Ranges of inequality. In time.	Ranges of inequality. In height.	Number of observations.	Average declination.	Corrected or mean establishment.	Mean height.	Ranges of inequality. In time.	Ranges of inequality. In height.
	°	*h. m.*	*Feet.*	*m.*	*Feet.*		°	*h. m.*	*Feet.*	*m.*	*Feet.*
127	5.9	12 17.7	6.50	103	1.12	128	6.1	18 25.3	2.30	109	2.77
169	7.8	12 17.5	6.49	97	1.20	171	8.1	18 24.2	2.40	102	2.43
379	15.5	12 14.0	6.39	113	1.85	380	15.5	18 23.2	2.53	117	1.56
124	16.8	12 13.7	6.38	108	1.89	126	16.8	18 23.0	2.53	101	1.64
210	21.5	12 12.2	6.32	131	2.66	209	21.6	18 22.0	2.66	128	1.24
128	23.3	12 12.0	6.34	139	3.29	126	23.5	18 21.7	2.84	143	1.58

It is easy to perceive that the non-periodical effect increases or decreases very regularly as the declination changes, thus showing that the values of the mean establishments and mean heights of high water and low water for the different values of D are reliable. The inequality ranges, which are in every case the algebraical differences between the largest positive and negative values of each group appear less regular, except the ranges for high-water heights, which are more harmonious. The general law, however, may clearly be traced, viz, increasing declination will increase the range of the time and height inequality, except in the case of low-water heights, for which the law is reversed. This irregularity in the ranges is doubtless due to incidental irregularities in the numbers from which the ranges are deduced and which would disappear if the observations were extended over a longer period of time. The periodical effect on high-water and low-water times and heights is given in the tables below in the form of a correction to the lunitidal intervals and heights of the semi-mensual inequality, so that the reader will find no difficulty in constructing, from the values derived from the second investigation, tables of the same form as the preceding ones. The result of the first investigation is also given.

Correction to the semi-mensual inequality in time for the effect of changes in the moon's declination.

Approximate hour of moon's transit.	FOR HIGH-WATER TIMES. Average declination = 5°.9. Bet. 0°—12°.	7°.8. Bet. 0°—15°.5.	16°.8. Bet. 12°—21°.	21°.5. Bet. 15°.5—25°.	23°.3. Bet. 21°—25°.	Semi-mensual inequality.	FOR LOW-WATER TIMES. Average declination = 6°.1. Bet. 0°—12°.	8°.1. Bet. 0°—15°.5.	16°.8. Bet. 12°—21°.	21°.6. Bet. 15°.5—25°.	23°.5. Bet. 21°—25°.	Semi-mensual inequality.
h. m.	*m.*	*m.*	*m.*	*m.*	*m.*	*h. m.*	*m.*	*m.*	*m.*	*m.*	*m.*	*h. m.*
0 30	+ 1	+ 4	+ 2	— 2	— 3	12 24	+ 3	+ 1	— 6	— 2	+ 2	18 28
1 30	6	6	— 4	3	± 0	12 05	8	8	± 0	6	— 6	18 05
2 30	9	9	+ 8	6	—12	11 46	9	5	+ 3	5	17	17 45
3 30	15	5	— 4	4	10	11 27	16	8	— 4	7	8	17 37
4 30	11	16	+ 3	11	10	11 16	4	10	+13	8	13	17 25
5 30	15	+19	8	—12	16	11 14	18	+16	5	—13	17	17 31
6 30	3	— 1	+ 8	± 0	—16	11 59	+ 3	— 3	2	+ 2	— 8	18 12
7 30	+ 2	+ 2	—12	— 2	+13	12 42	— 7	3	+ 7	3	+ 1	19 03
8 30	—11	— 6	+ 1	+ 7	11	13 06	4	5	— 8	3	12	19 22
9 30	+ 3	2	—12	— 4	3	13 07	6	7	9	5	17	19 18
10 30	— 5	11	+ 1	+ 9	5	12 59	8	7	— 5	7	14	19 05
11 30	— 5	— 4	— 3	+ 5	+11	12 44	—10	—10	± 0	+ 7	+ 6	18 47
Means...	+ 3.6	+ 3.0	— 0.3	— 1.9	— 2.0	12 14	+ 2.2	+ 1.1	— 0.2	— 1.1	— 1.4	18 23

Correction to the semi-mensual inequality in height for the effect of changes in the moon's declination.

Approximate hour of moon's transit.	FOR HIGH-WATER HEIGHTS. Average declination = 5°.9 Bet. 0°—12°.	7°.8 Bet. 0°—15°.5.	16°.8 Bet. 12°—21°.	21°.5 Bet. 15°.5—25°.	23°.3 Bet. 21°—25°.	Semi-mensual inequality.	FOR LOW-WATER HEIGHTS. Average declination = 6°.1. Bet. 0°—12°.	8°.1. Bet. 0°—15°.5.	16°.8. Bet. 12°—21°.	21°.6 Bet. 15°.5—25°.	23°.5 Bet. 21°—25°.	Semi-mensual inequality.
h. m.	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*
0 30	+0.42	+0.49	+0.64	+1.09	+1.51	7.22	—1.42	—1.24	—0.81	—0.28	+0.25	1.84
1 30	0.42	0.50	0.68	1.12	1.44	7.24	1.18	1.05	0.83	0.36	—0.02	1.89
2 30	0.48	0.62	0.76	0.65	0.66	7.03	0.58	0.61	0.39	0.40	0.47	2.04
3 30	0.70	0.60	+0.38	+0.23	+0.17	6.78	—0.13	—0.16	—0.15	0.31	0.40	2.24
4 30	0.43	+0.36	—0.27	—0.57	—0.54	6.21	+0.56	+0.60	+0.35	—0.05	—0.16	2.76
5 30	+0.08	—0.05	0.46	1.04	1.28	5.73	0.83	0.99	0.81	+0.34	+0.33	3.15
6 30	—0.30	0.30	0.87	1.54	1.78	5.39	1.33	1.19	0.81	0.65	0.45	3.40
7 30	0.42	0.58	1.12	1.30	1.53	5.43	0.88	0.76	0.45	0.84	1.11	3.32
8 30	0.36	0.50	0.85	0.72	0.64	5.79	+0.02	+0.09	0.29	0.71	0.99	2.93
9 30	0.18	—0.18	—0.03	—0.15	—0.24	6.23	—0.43	—0.31	+0.33	0.41	0.63	2.59
10 30	—0.13	+0.02	+0.44	+0.38	+0.40	6.62	1.13	1.00	—0.27	0.19	0.42	2.17
11 30	+0.23	+0.22	+0.58	+1.04	+1.32	7.07	—1.44	—0.85	—0.73	+0.13	+0.68	2.06
Means...	+0.11	+0.10	—0.01	—0.07	—0.04	6.39	—0.19	—0.13	—0.01	+0.15	+0.32	2.53

The values in these tables are additive to the lunitidal intervals and heights of the semi-mensual inequality for the respective hours of the moon's transit. For convenience' sake, the semi-mensual inequality is also added. As the periodical effect from so short a series can give but an approximation to the true result, the values for some hours of transit appear to be more or less irregular in the above table. By combining the values of the first and second investigation and taking the means, the resulting values would probably be more approximate.

We also investigated the declination effect on the variation in the semi-mensual inequality of the average mean level between high water and low water. While we find that the average mean levels of the different groups increase by a small amount between zero and maximum declination, when D increases, the range of this inequality is a minimum for a mean value of D = 15°.5 and increases when D is below or above 15°.5. The resulting average mean values of the levels for the different declination values and also the ranges of this inequality are shown in the appended table. For comparison we also add the result of a similar investigation with regard to the parallactic effect.

Table of the average mean levels between high-water and low-water heights for different values of declination and ranges of the semi-mensual inequality in these levels.

For declination effect.	Average declination = 6°.	8°.	15°.5.	16°.8.	21°.5.	23°.4.	For parallactic effect.	Average parallax = 55′.27.	57′.22.	59′.20.
Average mean level...	*Feet.* 4.440	*Feet.* 4.444	*Feet.* 4.463	*Feet.* 4.452	*Feet.* 4.493	*Feet.* 4.597	Average mean level...	*Feet.* 4.497	*Feet.* 4.463	*Feet.* 4.443
Range of the semi-mensual inequality.....	1.125	0.900	0.250	0.475	0.970	1.665	Range of the semi-mensual inequality.....	0.385	0.250	0.300

THE SUN'S DECLINATION EFFECT.

The same reason that prevented us from investigating the sun's parallactic effect led us to omit the investigation of the effect of changes in the sun's declination on the semi-mensual inequality.

We merely limit ourselves to the statement that the sun's effect is much smaller than that of the moon, the correction amounting to from $\frac{1}{3}$ to $\frac{4}{9}$ of that of a corresponding value of the moon's declination.

DIURNAL INEQUALITY.

The diurnal inequality in height and time is the difference in height and in the lunitidal interval between the morning and afternoon tides, respectively. This difference or irregularity being caused by the interference of two independent waves called, on account of their periods of oscillation, the semi-diurnal and diurnal waves, has been found to depend closely on the varying declinations of the moon and sun. This inequality goes through its changes in a semi-lunation, reaching its maximum at the epochs of the moon's greatest north or south declination and vanishing when her declination is zero. Practically, however, the epochs of maximum and minimum inequality do not, in most cases, coincide with the epochs of the moon's highest or zero declination, but are usually retarded.

Diurnal Inequality in Height.—The diurnal inequality in height was made out by a graphical process in the following manner:

First, the observed epochs and heights of high water and of low water were laid down as abscissæ and ordinates on a system of lines drawn for this purpose on Plates I and II. To obtain the high water inequality the high waters next following the moon's upper transit and those next following the lower transits were connected by separate auxiliary lines. The vertical distances between these auxiliary lines were then plotted on a straight axis as abscissæ on Plates III and IV, and their extremities connected by curves. The ordinates of these curves represent the values of the diurnal inequality in height of high water. To obtain the diurnal inequality in height of low water the same process was applied to the low waters.

On Plates III and IV the low-water height inequality is shown below the high-water height inequality of each month. The vertical distances belonging to the high waters and low waters next following the moon's upper transit are connected by full lines, those belonging to the lower transit by broken ones. It must be remembered that in north latitudes the south transit of the moon is the upper, the north transit the lower one. The phases of the moon and the epochs of the moon's zero and maximum declination are also indicated on the plates.

The diurnal inequality in height appears to be governed by the following rule:

For north declination that high water or low water which follows the moon's upper transit, on the average after an interval of $12\frac{1}{4}$ hours for the former and of $18\frac{1}{3}$ hours for the latter, will be the higher one of the two high waters or the two low waters of that day; while if the moon's declination be south it will be the lower one. This rule requires a certain correction, to be given hereafter, as the epochs of the moon's zero declination and of the disappearance of the diurnal inequality do not coincide. The same rule was found for the Port Foulke tides, but properly for the high waters only, the diurnal inequality in height of low water presenting the anomaly of disappearing at about the time when the diurnal inequality in height of high water reaches its maximum value. We further find that a high low water is as a rule followed by a low high water,* with exceptions, however, at about the time of the moon's crossing the equator. For the coasts of Europe this rule is different, a high low water being usually followed also by a high high water.

The diurnal inequality in the heights is very small, being less than half of that for Port Foulke and Van Rensselaer Harbor, which are the two next stations south of Polaris Bay where tides have been recorded. The inequality curves of our series are irregularly shaped lines, intersecting the axis near the epochs of the moon's zero declination. In conformity with the rule given above, the curves depending on upper transits fall above the axis, or their ordinates are positive, when the moon's declination is north; and they fall below the axis, or are negative, when it is south. The difference

*According to Koldewey the tides of Sabine Island show the same peculiarity. Compare "Die zweite deutsche Nordpolarfahrt," vol. II, p. 662.

between the average range of the high-water and low-water inequality is very small, the mean maximum range amounting, by measurement of the curves, for both high and low water to about 1 foot. This small range appears to be quite in conformity with the tidal theories, according to which the inequality is small in high latitudes. The interval between the epochs of the moon's zero declinations and the epochs of disappearance of the diurnal inequality in height is exhibited in the following table:

Table showing the epochs when the diurnal inequality in height vanishes, and also the intervals between these epochs and those of the moon's zero declination.

Moon's zero declination, mean time, Polaris Bay.	The diurnal inequality in height vanishes—		Interval—	
	For high water.	For low water.	For high water.	For low water.
1871.—Nov. 9d 21h	Nov. 11d 14h	Nov. 7d 08h ?	+1d 19h	—2d 13h ?
Dec. 7 07	Dec. 9 04	Dec. 6 02	+1 21	—1 05
Dec. 19 20	Dec. 22 04	Dec. 19 02	+2 08	—0 18
1872.—Jan. 3 15	Jan. 8 18	Jan. 3 06	+5 03	—0 09
Jan. 16 03	Jan. 20 03	Jan. 16 14	+4 00	+0 11
Jan. 30 21	Feb. 4 20	Jan. 31 04	+4 23	+0 07
Feb. 12 12	Feb. 18 05	Feb. 14 14	+5 17	+2 02
Feb. 27 01	....	Feb. 26 11	....	—0 14
Mar. 10 21	Mar. 14 16	Mar. 10 13	+3 19	—0 08
Mar. 25 08	Mar. 29 23	Mar. 25 22	+4 15	+0 14
Apr. 7 06	Apr. 9 05	Apr. 6 13	+1 23	—0 17
Apr. 21 17	Apr. 22 13	Apr. 19 10	+0 20	—2 07
May 4 14	May 5 21	May 2 12	+1 07	—2 02
May 19 03	May 20 06	May 17 02	+1 03	—2 01
May 31 20	June 2 22	May 30 22	+2 02	—0 22
Mean intervals........................			+2 23	—0 17

The average retard or interval from 14 semi-lunations is 2.9 days for the high-water inequality. The low-water inequality presents the anomaly that the intervals are confined to about two days before and two days after the epochs of the moon's zero declination. Thus for high water the minimum inequality happens on the average 2.9 days *after* and for low water 17 hours *before* the epoch of minimum force.* We are not aware of similar results for other places, but we believe that at Kurrachee, India, from three years of observation the maximum of the diurnal tide has been found to take place *before* the maximum of the force. According to Sir J. Lubbock, the lunar component of the diurnal inequality can be expressed by the formula, $\delta_h = C \sin 2\,\delta_m$, where δ_m denotes the declination of the moon and C a constant to be determined from observation. In our case the small range and the complex form of the inequality curve make its mathematical representation from so short a series unreliable, and therefore of little value. The average form of the diurnal inequality curve, freed more or less from all incidental irregularities, is probably nearly enough expressed by the formula—

$\delta_h = 14.5 \sin 2\,\delta_m$ for high water, and
$\delta_h = 13.05 \sin 2\,\delta_m$ for low water.

Diurnal Inequality in Time.—The diurnal inequality in time has been made out on Plates V and VI in a manner similar to that for the height inequality. The lunitidal intervals were laid down

* For Van Rensselaer Harbor the diurnal inequality in height of high water disappears on the average 1.6 days and for Port Foulke 1.9 days after the epoch of the moon's zero declination. For the latter place the apparent retard of the diurnal inequality in height of low water is on the average 9.8 days, this long retardation being explained as the effect of interference of the diurnal with the semi-diurnal wave, but we do not believe that such an explanation could apply to our case. If we were to deduce the intervals given in the above table that now have a negative sign, throughout, from the preceding epoch of the moon's zero declination, we should obtain a retardation extending not only over the whole period of a semi-lunation, but it would, in one instance, be at least two days longer. This explanation might be plausible if the tides observed at Polaris Bay were produced by the same wave as those at Van Rensselaer Harbor and at Port Foulke; but a comparison of the cotidal hours of the three places conclusively shows that the two tidal waves are propagated from entirely different directions.

as ordinates, with the time of the corresponding moon's transits as abscissæ. The lunitidal intervals depending on upper transits are distinguished by full lines, those depending on lower transits by broken ones.

The vertical distances between these two lines are plotted on an axis like the height inequalities, and connected by curves. Plate VII represents the time inequality for the high waters and Plate VIII that for the low waters of the whole series. The time inequality as represented on the plates appears to follow no well-defined law. Sudden changes from high to low values, and from positive to negative ones, occur several times in succession. The epochs of disappearance of the inequality are very variable, and appear for high water to be confined to between 3.3 days after and 1.1 days before the moon's zero declination, representing in this respect the same anomaly as the height inequality of low water. The average acceleration of the epoch of disappearance amounts for the high-water inequality to about 1.9 days. The low-water inequality epoch varies from 4.1 days after to 1.3 days before the moon's zero declination. The average retard is 2.1 days, which is nearly the same as for the height inequality of high water. The average maximum ranges of this inequality are very nearly alike for high water and low water, being about $1^h\ 13^m$ for the former and $1^h\ 9^m$ for the latter.

SEPARATION OF THE RESULTANT TIDE WAVE INTO ITS COMPONENT PARTS.

The compound tidal wave, as is well known, consists of a combination of the semi-diurnal and diurnal waves. The former has, on an average, half a lunar day for its period from low water to low water, while the latter, which depends for its height chiefly on the declination of the moon, goes through its changes from low water to low water in about a solar day, and produces the diurnal inequality in the heights and times of the tides.

In order to study these two waves, the resultant tidal wave, as observed, has to be separated into its two component waves, which may either be done analytically or by means of the graphic process devised by L. F. Pourtales. As the former treatment involves too much labor, we made use of the latter.

The result derived in this manner is given on Plate IX, where the series from January 1 to January 8, and from May 22 to June 6, 1872, are represented. We purposely chose these series because they are the most accurate and complete ones, consisting mostly of half-hourly observations or of readings taken at intervals of 10 minutes near the turn of the tide. The observed or resultant wave is indicated by a broken and dotted line, and the semi-diurnal and diurnal waves by full lines, the latter being shown below the two former. It appears as a very low wave of irregular shape, with a maximum range of about 13 inches, which is considerably less than the range of the diurnal wave observed either at Port Foulke or at Van Rensselaer Harbor. The relation between the declination of the moon and the diurnal wave is shown clearly in the series from May 22 to June 6, the spring and neap tides being marked by a slight difference in height. The irregularity of the diurnal wave and its small range render a detailed investigation of its form very difficult, and, as the series of observations is short, the result would be perfectly unreliable. For this reason we limited ourselves merely to the investigation of the form of the resultant spring and neap tide waves.

INVESTIGATION OF THE FORM OF THE TIDE WAVES.

The tide wave being the result of the action of periodic forces, its form, aside from non-periodical disturbances, ought to correspond very closely to the laws governing the action of such forces.

In the following we give the results of our investigation of the form of the two most prominent waves in each semi-lunation, namely, of the spring and neap tide waves:

The spring and neap tides, that is, the hourly observed heights of the tide occurring about one day after new and full moon, and the heights of those occurring about one day after the first and last quarter of the moon, as also those of the tide preceding and following each spring and neap tide, were extracted from the whole series. These tides were next classed for springs and neaps separately into groups corresponding to tides of equal periods of time from low water to low water. A tide having its low water, for instance, at $7^h\ 30^m$ a. m. and the succeeding low water at 7^h p. m., its period would be classed as $\frac{1}{2}^h$ and 11^h; a tide having its low water at 6^h a. m. and the next low water at $5^h\ 30^m$ p. m., its period was set down as 11^h and $\frac{1}{2}^h$; a tide having its low water

at $1^h\ 15^m$ p. m. and the following low water at $1^h\ 45^m$ a. m., its period was counted $\frac{3}{4}^h$ and 12^h and $\frac{1}{4}^h$, &c. The hourly heights of each group, as also those for the fractional hours at the beginning and end of each period, were then added up and their mean values found. The mean values of each group were then thrown into curves, the heights being laid down as ordinates and the corresponding times as abscissæ. The period from low water to low water in each curve was then divided into 12 equal parts and the height corresponding to each was carefully measured off with the scale used in the construction of the curves.* The 13 equidistant ordinates from each curve were then set down in 13 columns, and each column added up and its mean value taken. For the mean ordinates of the spring-tide wave from 42 observed tides we obtained the following values:

$1^{ft}.93,\ 2^{ft}.31,\ 3^{ft}.27,\ 4^{ft}.59,\ 5^{ft}.97,\ 6^{ft}.91,\ 7^{ft}.32,\ 6^{ft}.95,\ 5^{ft}.97,\ 4^{ft}.55,\ 3^{ft}.27,\ 2^{ft}.32,\ 2^{ft}.02;$

and for the neap tide wave from 39 observed tides:

$3^{ft}.23,\ 3^{ft}.40,\ 3^{ft}.81,\ 4^{ft}.36,\ 4^{ft}.90,\ 5^{ft}.29,\ 5^{ft}.42,\ 5^{ft}.31,\ 4^{ft}.89,\ 4^{ft}.34,\ 3^{ft}.82,\ 3^{ft}.49,\ 3^{ft}.30.$

Applying to these values Bessel's well-known function of the action of periodic forces, the spring-tide wave will be found closely represented by the expression—

$$h = (2^{ft}.69 + 1^{ft}.93) + 2^{ft}.664 \sin(\theta + 270^\circ\ 02') + 0^{ft}.035 \sin(2\,\theta + 85^\circ\ 16')$$

and the neap-tide wave by—

$$h = (1^{ft}.13 + 3^{ft}.23) + 1^{ft}.058 \sin(\theta + 269^\circ\ 50') + 0^{ft}.015 \sin(2\,\theta + 144^\circ\ 47'.)$$

For these equations the period from low water to low water is conceived to correspond to 360° of phase; for 12 equidistant observations of heights between the two low waters the angle θ increases therefore successively from 0° to 30°, 60° . . . . 300°, 330°, 360°. As the difference of level between the two low waters is less than 1^{in} in each of the two waves, the constants in the above equations were computed directly from the numbers representing the mean ordinates of the waves, after subtracting from each ordinate $1^{ft}.93$ and $3^{ft}.23$, respectively. For the computation of the ordinates these values have again to be added, and appear, therefore, in the first term of each equation.

For Van Rensselear Harbor the corresponding expressions for the form of these two waves are, for the spring-tide wave—

$$h = 5^{ft}.83 + 5^{ft}.58 \sin(\theta + 278^\circ) + 0^{ft}.20 \sin(2\,\theta + 281^\circ)$$

and for the neap-tide wave—

$$h = 2^{ft}.42 + 2^{ft}.25 \sin(\theta + 269^\circ) + 0^{ft}.09 \sin(2\,\theta + 290^\circ.)$$

For the form of the *diurnal* and *semi-diurnal* waves observed at Port Foulke the following expressions were found:

for the diurnal wave—

$$h = 1^{ft}.50 + 1^{ft}.56 \sin(\theta + 270^\circ) + 0^{ft}.08 \sin(2\,\theta + 135^\circ)$$

and for the semi-diurnal wave—

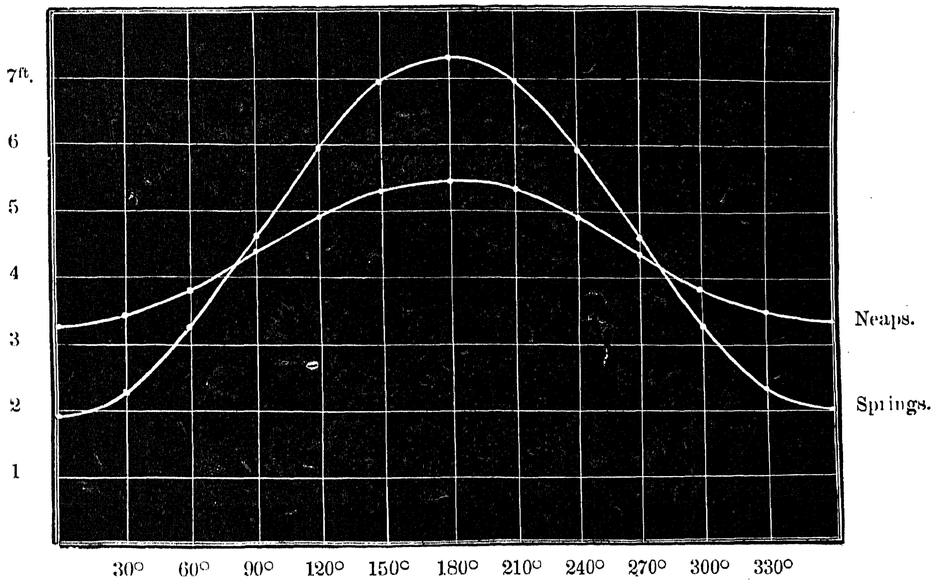
$$h = 3^{ft}.75 + 3^{ft}.79 \sin(\theta + 275^\circ) + 0^{ft}.21 \sin(2\,\theta + 194^\circ.)$$

The agreement between the observed values and those computed by means of our formula is shown in the table given hereafter and also in the annexed diagram.

Observed and computed values for the form of the spring and neap tide waves.

Phase.	For the spring-tide wave. Observed.	Computed.	Difference, O—C.	For the neap-tide wave. Observed.	Computed.	Difference. O—C.
°	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*
0	1.93	1.99	—0.06	3.23	3.31	—0.08
30	2.31	2.33	—0.02	3.40	3.43	—0.03
60	3.27	3.27	±0.00	3.81	3.81	±0.00
90	4.59	4.59	±0.00	4.36	4.35	+0.01
120	5.97	5.93	+0.04	4.90	4.89	+0.01
150	6.91	6.94	—0.03	5.29	5.29	±0.00
180	7.32	7.32	±0.00	5.42	5.43	—0.01
210	6.95	6.95	±0.00	5.31	5.27	+0.04
240	5.97	5.93	+0.04	4.89	4.88	+0.01
270	4.55	4.58	—0.03	4.34	4.35	—0.01
300	3.27	3.27	±0.00	3.82	3.84	—0.02
330	2.33	2.32	+0.01	3.49	3.46	+0.03
360	2.02	1.99	+0.03	3.30	3.31	—0.01

* In using this method, the scale employed should be large enough to allow of measuring the ordinates accurately within $0^{ft}.01$.



It appears that the two slopes in each wave are very nearly symmetrical, which is quite in accordance with the durations of the rise and fall of the tide, as these differ very little, the rise occupying but 6 minutes longer than the fall.

PROGRESS OF THE TIDAL WAVE.

Having discussed thus far the tides of Polaris Bay, it only remains to investigate from which direction the tidal wave is propagated to the locality in question; whether it is the Atlantic wave entering Davis Strait or a wave traveling along the east and north coasts of Greenland; whether it originates in the Polar Sea, or whether it comes from the Pacific Ocean through Bering Strait.

Evidently, the wave reaching Polaris Bay cannot be propagated through Davis Strait, as an examination of the following table will readily show; the different localities given there being all situated on the west coast of Greenland, and arranged according to increasing latitude.

Locality.	Latitude north.	Longitude west of Greenwich.		Mean establishment—		Range of—		Cotidal hour—	
		In arc.	In time.	Of high water.	Of low water.	Spring-tides.	Neap-tides.	Of high water.	Of low water.
	° ′	° ′	h. m.	h. m.	h. m.	Feet.	Feet.	h. m.	h. m.
Julianshaab	60 35	46 05	3 04	4 56	....	7.00	5.00	7 51	....
Frederickshaab	62 00	50 05	3 20	5 53	....	12.50	9.25	9 01	....
Holsteinborg	66 56	53 42	3 35	6 20	....	10.00	....	9 42	....
Whalefish Island	68 59	53 13	3 33	8 05	....	7.50	....	11 22	....
Godhavn	69 12	53 28	3 34	8 50	....	7.50	....	12 06	....
Upernivik	72 47	56 03	3 44	10 50	....	8.00	....	14 12	....
Wolstenholm Sound	76 33	68 56	4 36	10 58	....	7.50	7.00?	15 12	....
Port Foulke	78 18	73 00	4 52	11 14	17 9.5	9.90	5.00	15 43	21 27
Van Rensselaer Harbor	78 37	70 53	4 44	11 43	17 48	10.80	4.90	16 04	21 56
Polaris Bay	81 37	61 44	4 07	12 14	18 23	5.40	1.99	15 56	21 52

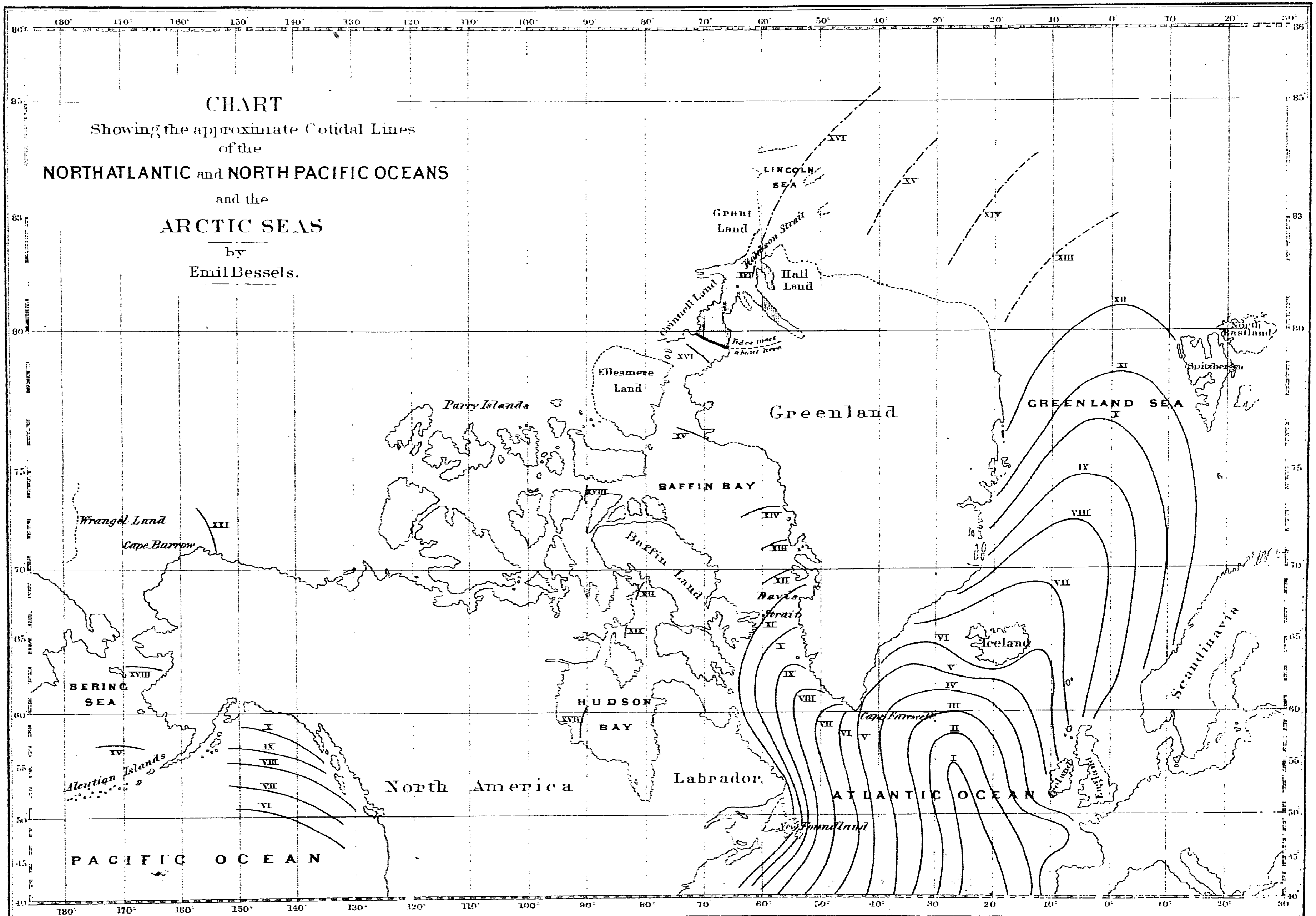
It will be seen that there exists a regular progress of the wave in a northerly direction between Julianshaab and Van Rensselaer Harbor, the cotidal hour of the former station being $7^h\ 51^m$, that of the latter $16^h\ 04^m$, and the difference of latitude between the two places about 18 degrees. As he cotidal hour of Polaris Bay, situated 180 nautical miles north of Van Rensselaer Harbor, is 8 minutes earlier than that of the more southern station, it is easy to perceive that the two localities must necessarily be under the influence of different waves.

During our stay in Greenland we were led to the belief that the tidal wave reaching Polaris Bay was coming from the Pacific Ocean through Bering Strait; but when, after our return, we could compare the literature on this subject we soon found this to be an erroneous conclusion. In order to show that the wave in question cannot be a derivative of the Bering Strait tide, it will be sufficient to state that the latter is a simple lunar semi-diurnal tide.

As up to this time we do not know positively whether there is an extensive body of water around the pole, where a tidal wave might originate, we may be allowed to conclude that the wave reaching Polaris Bay is an Atlantic wave, progressing along the eastern and northern coasts of Greenland. In support of this view we give the following table, containing the result of the tidal observations made in East Greenland during the second German expedition under Captain Koldewey.

Locality.	Latitude north.	Longitude west.	Date.	Mean establishment— Of high water.	Of low water.	Rise and fall.	Cotidal hour.
	° ′	° ′		h. m.	h. m.	Feet.	h. m.
Nukarbik	63 24	42 02	1870.—Apr. 12	4 00	....	2.00	6 30
Eleanor Bay	73 27	25 03	Aug. 13	....	6 00	....	10 45
Cape Broer Ruys	73 28	20 04	Aug. 3	....	21 24	....	10 51
			Aug. 4	3 29	....	3.04	....
Jackson Island	73 54	20 00	Aug. 1	13 31	....	....	11 03
			Aug. 2	2 26	19 48	3.22	....
Sabine Island	74 32	....	....	....	....	....	11 14
Pendulum Island	74 37	18 29	1869.—Aug. 28	2 38	8 46	2.85	11 21
				14 56	20 58	2.49	....
			Aug. 29	3 05	....	....	....
Cape Philip Broke	74 56	17 39	1870.—July 24	21 13	....	....	11 28
			July 25	9 14	3 15	2.66	....
Cape Börgen	75 26	17 59	July 27	11 16	....	....	....
				23 26	30 30	2.06	
			July 28	12 30	18 00	2.54	12 07
			July 29	1 00	....	....	

The accompanying map, based on the results given above and on others derived from various sources, shows the approximate cotidal lines of the North Atlantic and North Pacific Oceans and of the Arctic Seas. A comparison of this representation with others of earlier date, where no use had been made of the Greenland observations, will show that we had to modify the course of our lines considerably in order to satisfy the different observations. The lines north of latitude 81° are purely hypothetical and were merely put in to show the probable correctness of our view that the Polaris Bay wave rounds Greenland before it reaches this place. The heavy line running across Smith Sound represents the approximate place of junction of the two Atlantic waves, and we suppose that the one entering through Davis Strait does not affect that portion of the Sound which is shaded by vertical lines on our map.



J.C. Entwistle, Lith.

TEMPERATURE OF THE AIR.

RECORD AND DISCUSSION OF TEMPERATURES AT POLARIS BAY.

Although we entered our winter-quarters during the latter part of September, 1871, we were unable to begin the regular hourly meteorological observations before November 6th, because no hands could be spared to finish the observatory, which had been set up on shore a few days after we had anchored at Polaris Bay.

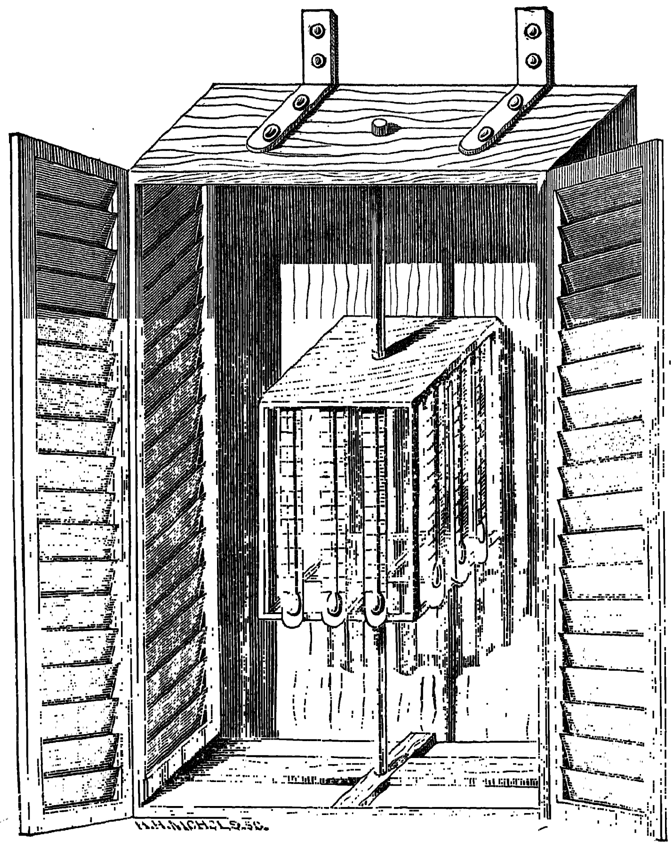
DESCRIPTION OF STATION AND OBSERVATORY.

The observatory was a small building, situated in latitude 81° 36'.4 north, longitude 62° 15' west of Greenwich, and adjusted in the meridian as nearly as could be done. It was placed 34 feet above the mean sea-level on a nearly level plateau, consisting of a grey, slaty, Silurian limestone, entirely covered with drift of the same material and of primitive rock. This plateau, deeply intersected by ravines, stretches from north to south. Its length is about 10 miles, its average breadth about 4, as a glance at the map will show. Toward the north it is bounded by mountains varying in altitude from 900 to 1,200 feet, which gradually slope to the eastward into a chain of hills not over 400 feet high. The mountains bordering its southern limit rise to an altitude of a little over 2,000 feet.

The observatory, a plan of which is given on Plate I of this chapter, was made at the New York navy-yard a short time previous to the sailing of the expedition. It was built of half-inch pine plank, and could be taken down and put together in a very short time. Its length was 10 feet, its width 8 feet, and its greatest height 8.5 feet. The roof had a slope of about 33 degrees, and was provided with four shutters, two on each side. The door was about 4.8 feet high. Originally the little building had no window, as the latter was not deemed necessary on account of the absence of the sun during the winter. Early in spring a square hole of about 1 foot by 1½ was cut through the roof and covered with a pane of glass. As soon as there was sufficient snow the whole building was banked in with a wall about 3 feet in thickness, as represented on the ground-plan (Plate II). For further protection against wind and low temperatures, a tunnel of snow-blocks was built leading to the door, and at the same time to the two magnetic huts containing the declinometer and dip-circle (see Plate II).

In order to afford sufficient protection to the thermometers without depriving them of the free circulation of air, they were put up in a louver-boarded box, 6 feet high, 3 feet wide, and 1.8 feet deep. This box was fastened to the eastern wall of the observatory by means of strong iron brackets, leaving a space of a little more than 2 feet between it and the wall (Plate II). In anticipation of heavy snow-drifts, usually interfering with accurate observations, the thermometers were sus-

pended on a cage revolving round a perpendicular axis fastened in the center of the box, as shown in the accompanying sketch. The bulbs of the instruments, suspended 4.5 feet above the ground, were all on the same level.



INSTRUMENTS.

The expedition was supplied with the following instruments, all graduated according to Fahrenheit's scale, viz:

10 spirit-thermometers (standard), by L. Casella, London.
10 mercurial thermometers (standard), by L. Casella, London.
1 mercurial thermometer (standard), by James Green, New York.
1 metallic thermometer, by Casella.
3 mercurial psychrometers, 1 by Green, 2 by Casella.
1 spirit-psychrometer, by Casella.
1 maximum thermometer (spirit), by Green.
1 maximum thermometer (mercurial), by Casella.
3 minimum thermometers (spirit), 2 by Green, 1 by Casella.
3 black-bulb thermometers, in vacuo, by Casella.
1 black-bulb thermometer, free, by Casella.
1 black-bulb thermometer, free (spirit), by Green.

COMPARISONS OF THERMOMETERS AT THE TEMPERATURE OF MELTING ICE.

As the comparisons taken at Polaris Bay were lost during the wreck, we give another set of readings taken at Polaris House, October 31, 1872. The instruments were suspended over a bucket filled with lumps of melting ice, in which the bulbs of the thermometers were immersed. The readings were taken at the intervals specified in the first column, headed "Time".

Time, Oct. 31, 1872.	DESIGNATION OF THERMOMETERS.										
	Standard, 13765.	Mercurial psychrometer A.		Mercurial psychrometer B.		Spirit-psychrometer.		Mercurial maximum thermometer.	Spirit minimum thermometer.	Solar thermometer.	
		Dry.	Wet.	Dry.	Wet.	Dry.	Wet.			In vacuo.	Free.
h. m.	°	°	°	°	°	°	°	°	°	°	°
1.30 a. m	32.0	32.1	32.3	32.5	32.7	32.8	33.1	32.5	32.6	33.0	32.0
36 a. m	32.0	32.1	32.4	32.2	32.5	32.8	33.0	32.4	32.6	33.0	32.0
42 a. m	32.0	32.1	32.3	32.1	32.3	32.8	33.0	32.0	32.5	32.8	31.9
48 a. m	32.0	32.0	32.1	32.1	32.2	32.7	33.0	31.5	32.4	32.7	31.8
52 a. m	32.0	32.0	32.1	32.0	32.2	32.7	33.0	31.5	32.4	32.6	31.8
2.00 a. m	32.0	32.0	32.0	32.0	32.2	32.7	32.8	31.3	32.3	32.5	31.8
6 a. m	32.0	32.0	32.0	32.0	32.2	32.7	32.9	31.3	32.3	32.5	31.8
12 a. m	32.0	32.0	32.0	32.0	32.2	32.7	32.8	31.3	32.3	32.5	31.8
Mean	32.0	32.0	32.1	32.1	32.3	32.7	32.9	31.7	32.4	32.7	31.8
Correction	± 0.0	± 0.0	− 0.1	− 0.1	− 0.3	− 0.7	− 0.9	+ 0.3	− 0.4	− 0.7	+ 0.2

In order to show that the index-correction of the instruments had undergone no material change during seven months, we give another set of comparisons, also taken at Polaris House, May 1, 1873, immediately after the regular meteorological observations had been discontinued.

Time, May 1, 1873.	DESIGNATION OF THERMOMETERS.										
	Standard, 13765.	Mercurial psychrometer A.		Mercurial psychrometer B.		Spirit-psychrometer.		Mercurial maximum thermometer.	Spirit minimum thermometer.	Solar thermometer.	
		Dry.	Wet.	Dry.	Wet.	Dry.	Wet.			In vacuo.	Free.
h. m.	°	°	°	°	°	°	°	°	°	°	°
6.00 a. m	32.2	32.1	32.4	32.0	32.5	32.8	33.0	31.6	32.7	33.0	31.9
6. 5 a. m	32.0	32.1	32.4	32.0	32.5	32.7	33.0	31.5	32.7	32.9	31.9
10 a. m	32.0	32.0	32.2	32.0	32.4	32.7	32.9	31.5	32.6	32.9	31.8
15 a. m	32.0	32.0	32.0	32.0	32.3	32.7	32.9	31.5	32.4	32.8	31.8
20 a. m	32.0	32.0	32.0	32.0	32.2	32.7	32.9	31.5	32.3	32.7	31.8
25 a. m	32.0	32.0	32.0	32.0	32.2	32.7	32.9	31.5	32.3	32.7	31.8
Mean	32.0	32.0	32.1	32.0	32.3	32.7	32.9	31.5	32.5	32.6	31.8
Correction	± 0.0	± 0.0	− 0.1	∓ 0.0	− 0.3	− 0.7	− 0.9	+ 0.5	− 0.5	− 0.6	+ 0.2

By comparing the corrections derived from the two sets of observations it will be seen that the greatest difference does not exceed 0°.2, consequently the results can be relied upon.

COMPARISONS AT OTHER TEMPERATURES.

Although the psychrometric observations were taken hourly, we still considered it better not to make use of the readings of the dry bulb to obtain the temperature of the air, as the indications of this instrument are always more or less influenced by the evaporation taking place at the surface of the wet-bulb thermometer. Therefore a mercurial standard, (by Green,) which had been carefully compared by Mr. Meyer with the naval standard at Washington, was read for this purpose. Its correction was found by him to be —0°.4. This instrument was an excellent one, but unfortunately was broken during the disaster in October, 1872. All the observations of temperature at Polaris House were taken with one of Casella's standards, the corrections of which had been determined at Polaris Bay, and were afterwards found in one of the meteorological notebooks. The table of comparisons runs thus:

Temperature by Casella's mercurial standard, No. 13765.	Correction.	Number of observations.
°	°	
+ 45	—0. 6	6
43	—0. 7	8
40	—0. 5	5
36	—0. 2	3
32	±0. 0	6
25	±0. 0	8
20	—0. 1	12
15	—0. 2	13
10	—0. 3	10
5	—0. 3	7
± 0. 0	—0. 3	4
— 5	—0. 5	8
—10	—0. 4	8
—15	—0. 5	14
—22	—0. 4	14
—25	—0. 5	12
—28	—0. 5	16
—30	—0. 5	16
—32	—0. 5	16
—34	—0. 5	16
—36	—0. 5	14
—38	—0. 5	16

The following table contains the results of various thermometer-comparisons made during the winter of 1872 to 1873. In order to eliminate the influence of the wind on the bulbs of the instruments, the thermometers were immersed in glass jars filled with absolute alcohol, or in some instances with pure chloroform:

Designation of thermometer.	Scale, + 45° to + 35°.		Scale, + 35° to + 30°.		Scale, + 30° to + 25°.		Scale, + 25° to + 20°.	
	Corr.	No. of obs.	Corr.	No. of obs.	Corr.	No. of obs.	Corr.	No. of obs.
	°		°		°		°	
Mercurial psychrometer A, dry bulb	±0. 0	6	±0. 0	5	±0. 0	7	—0. 1	9
wet bulb	—0. 2	6	—0. 1	7	—0. 2	5	—0. 2	6
Mercurial psychrometer B, dry bulb	—0. 2	8	—0. 1	9	—0. 2	8	—0. 1	5
wet bulb	—0. 3	8	—0. 3	6	—0. 3	7	—0. 3	6
Spirit-psychrometer, dry bulb	—0. 7	8	—0. 7	8	—0. 7	8	—0. 7	8
wet bulb	—0. 9	8	—0. 9	8	—0. 9	8	—0. 9	8
Mercurial maximum	+0. 3	6	+0. 3	6	+0. 2	5	+0. 3	7
Spirit minimum	—0. 3	6	—0. 4	6	—0. 5	6	—0. 5	8

Comparisons—Continued.

Designation of thermometer.	Scale, + 20° to + 15°.		Scale, + 15° to + 10°.		Scale, + 10° to + 5°.		Scale, + 5° to ± 0°.	
	Corr.	No. of obs.	Corr.	No. of obs.	Corr.	No. of obs.	Corr.	No. of obs.
	°		°		°		°	
Mercurial psychrometer A, dry bulb	—0.1	8	—0.2	8	—0.3	8	—0.3	8
wet bulb	—0.2	8	—0.2	8	—0.2	8	—0.2	8
Mercurial psychrometer B, dry bulb	—0.1	9	—0.2	10	—0.2	12	—0.2	11
wet bulb	—0.3	9	—0.5	10	—0.4	12	—0.5	11
Spirit psychrometer, dry bulb	—0.7	14	—0.8	15	—0.8	13	—0.8	16
wet bulb	—0.9	14	—0.9	15	—0.9	13	—0.9	16
Mercurial maximum	+0.3	10	+0.5	10	+0.5	7	+0.5	9
Spirit minimum	—0.5	10	—0.4	10	—0.4	7	—0.4	9

Designation of thermometer.	Scale, ± 0° to — 5°.		Scale, — 5° to — 10°.		Scale, — 10° to — 15°.		Scale, — 15° to — 20°.	
	Corr.	No. of obs.	Corr.	No. of obs.	Corr.	No. of obs.	Corr.	No. of obs.
	°		°		°		°	
Mercurial psychrometer A, dry bulb	—0.5	14	—0.5	10	—0.6	11	—0.6	10
wet bulb	±0.0	14	—0.3	11	—0.3	11	—0.3	7
Mercurial psychrometer B, dry bulb	—0.4	14	—0.4	10	—0.6	9	—0.5	9
wet bulb	—0.3	14	—0.4	9	—0.3	9	—0.3	9
Spirit psychrometer, dry bulb	—0.6	14	—0.6	11	—0.6	17	—0.6	11
wet bulb	—0.8	14	—0.8	13	—0.7	17	—0.8	11
Mercurial maximum	+0.9	6	+0.9	16	+0.9	10	+0.7	8
Spirit minimum	—0.8	9	—0.8	8	—0.7	13	—0.9	4

Designation of thermometer.	Scale, — 20° to — 25°.		Scale, — 25° to — 30°.		Scale, — 30° to — 35°.		Scale, — 35° to — 40°.	
	Corr.	No. of obs.	Corr.	No. of obs.	Corr.	No. of obs.	Corr.	No. of obs.
	°		°		°		°	
Mercurial psychrometer A, dry bulb	—0.3	11	—0.6	9	—0.8	13	—0.8	9
wet bulb	—0.5	11	—0.6	9	—0.6	12	—1.2	8
Mercurial psychrometer B, dry bulb	—0.8	14	—1.0	9	—0.9	12	—1.5	8
wet bulb	—1.2	12	—1.2	10	—1.8	12	—2.2	8
Spirit psychrometer, dry bulb	—0.8	19	—0.7	17	—0.8	18	—0.7	14
wet bulb	—0.9	19	—0.9	18	—0.9	18	—0.8	14
Mercurial maximum	±0.0	10	+0.9	16	+1.5	12	+2.7	9
Spirit minimum	—0.7	16	—1.0	16	—1.8	14	—2.3	9

The following pages contain the corrected temperatures. In order to get a complete year, we made use of some hourly observations, comprising the period from August 12 to August 31, 1872, which, however, were not taken at Polaris Bay, but while the vessel was beset in Smith's Sound. From September 1 to November 6, 1871, we have only three observations a day, extracted partly from the log-book, partly from some blanks (Form 4), as issued by the United States Army Signal-Service (division of telegrams and reports for the benefit of commerce). These blanks, which had been filled by Mr. Meyer, were found on board the ship after the separation from the ice-party had taken place. The observations were taken 30 minutes later than their recorded time. The minutes have been omitted in the record given hereafter, in order to avoid unnecessary figures.

Up to November 6, 1871, all the observations were taken by Mr. Meyer and the writer, relieving each other in eight-hour watches. From this date to January 18, 1872, Mr. Meyer observed sixteen hours and the writer but eight. After the 18th of January, Joseph Mauch, an intelligent seaman, who had been well trained in taking observations, began to stand an eight-hour watch, so that the twenty-four hours were equally divided between Messrs. Meyer, Mauch, and the writer,

During the time of the boat-journey north, when Mr. Meyer and the writer were absent from the ship, the observations were taken by Messrs. Bryan and Mauch.

During the seven months spent at Polaris House, Mr. Bryan observed eight hours a day and the writer sixteen. From November 1st to November 16th Mr. Bryan's place was supplied by Mr. Mauch, and during the spring, when the writer was absent on several occasions, Noah Hayes assisted most materially in taking the observations. All the general remarks made in reference to the record of temperature apply equally well to the rest of the meteorological observations, unless stated otherwise.

The sun disappeared October 17, 1871, and re-appeared February 28, 1872, although the faint twilight-arch, the altitude of which was 3° 16′ on December 6th at noon, was visible during the whole period of darkness.

NOVEMBER, 1871.

Time.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0h	......	......	......	......	......	......	+12.7	+12.1	+ 9.8	+10.7	+7.7	+2.4	+1.9	- 8.7	-12.4	-15.7
1	......	......	......	......	......	......	12.7	11.1	9.6	10.7	6.6	3.1	+0.4	8.7	11.9	14.4
2	......	......	......	......	......	......	11.1	7.1	10.6	12.2	7.7	2.6	-3.9	7.9	14.4	13.9
3	......	......	......	......	......	......	8.8	4.4	11.7	12.5	7.1	3.7	5.6	6.7	15.4	13.4
4	......	......	......	......	......	......	10.8	1.7	12.4	12.3	4.8	4.1	7.2	6.1	17.4	13.2
5	- 9.8	-24.0	-23.0	-24.5	-16.0	+ 1.1	10.0	6.6	11.6	12.6	4.4	4.1	6.4	6.2	13.9	13.4
6	......	......	......	......	......	......	9.7	6.6	12.5	13.1	3.7	4.2	5.2	6.4	15.4	12.5
7	......	......	......	......	......	......	10.2	6.5	12.9	13.1	4.5	4.4	4.6	5.2	15.1	11.0
8	......	......	......	......	......	......	10.8	5.3	12.7	11.6	4.0	4.6	4.1	6.2	14.8	10.1
9	......	......	......	......	......	+12.6	11.1	4.6	12.5	12.8	3.1	4.6	3.4	6.1	13.4	10.8
10	......	......	......	......	......	11.6	9.6	1.6	13.1	11.9	2.9	4.6	7.8	6.7	11.8	12.2
11	......	......	......	......	......	11.1	9.6	2.9	13.6	10.8	2.4	5.5	7.1	9.2	12.2	9.9
Noon.	......	......	......	......	......	10.9	9.5	8.4	11.9	10.9	1.6	5.4	6.7	10.9	12.2	10.1
1h	......	......	......	......	......	10.5	9.5	8.6	11.4	8.6	1.6	6.4	5.5	10.9	12.0	10.9
2	-12.6	-20.0	-20.0	-25.0	-12.2	12.2	9.7	9.6	8.4	8.1	4.1	6.7	4.8	10.4	14.4	8.4
3	......	......	......	......	......	12.6	10.1	8.8	7.6	7.6	1.1	5.7	5.4	10.4	15.4	6.9
4	......	......	......	......	......	14.4	8.6	+ 8.2	9.6	6.6	1.4	4.6	6.6	11.4	15.4	7.9
5	......	......	......	......	......	14.2	8.1	- 0.2	11.3	6.6	1.6	5.9	9.0	11.4	16.4	6.0
6	......	......	......	......	......	14.4	10.2	+ 4.6	11.0	6.6	1.9	5.1	8.4	11.9	17.7	6.9
7	......	......	......	......	......	14.5	10.6	6.6	7.9	7.1	+1.0	4.6	8.4	11.4	18.4	6.2
8	......	......	......	......	......	15.1	11.3	8.8	9.5	7.6	-0.1	4.2	9.4	11.8	17.4	4.9
9	......	......	......	......	......	14.6	11.6	8.4	11.6	7.4	+0.9	3.1	7.6	12.4	16.5	4.1
10	......	......	......	......	......	14.2	11.6	8.9	10.0	8.2	1.7	1.2	7.4	12.4	16.5	3.0
11	-24.0	-20.3	-21.0	-15.5	- 1.1	+13.8	+12.1	+ 6.8	+11.1	+ 8.1	+1.9	+0.7	-9.0	-12.4	-16.4	- 3.4
Means.	-17.06	-21.15	-21.25	-19.62	- 8.14	+10.23	+10.42	+ 6.59	+11.01	+ 9.90	+3.23	+4.23	-5.88	- 9.24	-14.87	- 9.55

NOVEMBER, 1871.

Time.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Means.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0h	-2.8	+0.8	- 3.8	- 9.4	......	......	......	......	-22.4	-18.6	-18.9	-19.6	......	- 1.3	-8.63
1	3.1	0.6	3.4	9.7	......	......	......	......	22.9	19.4	18.4	19.4	......	1.4	8.63
2	3.4	0.6	4.1	10.4	......	......	......	......	22.9	19.8	18.5	20.2	......	2.5	8.63
3	1.2	0.8	4.6	10.9	......	......	......	......	23.8	20.6	18.5	20.3	......	5.4	8.63
4	2.1	1.5	6.4	11.7	......	......	......	......	23.4	21.9	19.4	20.9	......	4.4	8.62
5	6.7	0.5	6.4	13.2	-15.8	-17.6	-19.5	-21.4	23.6	23.4	19.9	16.6	-11.2	5.3	9.56
6	7.2	0.5	9.1	15.5	......	......	......	......	23.9	21.9	22.3	15.4	......	5.3	8.63
7	7.7	+0.6	9.1	17.1	......	......	......	......	23.9	20.2	22.7	11.9	......	4.8	8.63
8	8.2	-0.4	10.3	17.7	......	......	......	......	24.1	19.4	24.1	9.5	......	4.6	8.63
9	6.0	0.1	10.4	-18.2	......	......	......	......	24.4	19.4	24.7	6.4	......	6.0	8.63
10	5.8	-0.4	-10.4	......	......	......	......	......	24.5	20.0	25.9	5.6	......	6.6	8.63
11	6.9	+1.4	......	......	......	......	......	......	25.4	17.6	25.4	5.4	......	5.4	8.63
Noon.	6.4	0.4	......	......	......	......	......	......	26.2	17.4	25.4	4.4	......	7.6	8.63
1h	4.4	0.9	......	......	......	......	......	......	26.4	17.0	24.4	3.4	......	9.4	8.62
2	3.4	+0.6	-10.4	-20.0	-21.0	-22.0	-23.0	-24.0	25.4	16.7	24.4	1.6	+ 4.6	8.2	8.73
3	2.4	-1.4	......	......	......	......	......	......	25.3	15.4	23.4	5.4	......	8.8	8.62
4	0.9	3.4	......	......	......	......	......	......	25.2	15.6	22.6	4.4	......	9.4	8.63
5	-0.4	1.3	......	......	......	......	......	-22.4	24.1	16.8	21.4	-1.4	......	10.8	8.63
6	+1.1	-0.2	......	......	......	......	......	21.4	25.3	16.4	21.4	......	......	11.2	8.63
7	1.1	+0.6	......	......	......	......	......	23.4	24.4	17.4	21.4	......	......	11.4	8.63
8	1.5	-2.8	......	......	......	......	......	23.9	18.4	17.4	23.8	......	......	10.1	8.63
9	1.6	3.4	......	......	......	......	......	22.4	20.3	18.4	20.7	......	+0.6	7.9	8.63
10	1.6	3.4	-10.9	......	......	......	......	22.4	19.5	19.4	17.6	......	......	8.4	8.63
11	+1.4	-3.8	-11.1	-13.4	-15.0	-17.0	-19.0	-21.3	-18.4	-18.4	-19.4	- 7.4	- 1.2	- 9.9	-8.08
Means.	-2.95	-0.45	- 9.75	-15.00	-16.70	-18.40	-20.12	-20.12	-23.50	-18.69	-21.86	- 8.28	- 2.25	- 6.92	-8.64

DECEMBER, 1871.

Time.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0h	-10.4	-13.0	- 9.7	-9.4	+ 8.6	- 4.8	-15.4	-23.3	-21.2	+ 2.6	- 2.4	-13.6	-14.6	- 8.9	-12.4	-14.4
1	12.4	11.8	9.2	7.4	11.6	5.4	16.4	24.4	22.4	3.8	1.4	13.4	15.6	10.4	13.9	17.4
2	11.6	10.2	9.3	7.2	13.9	5.0	17.2	23.4	20.4	2.6	2.0	13.2	14.4	10.9	10.9	13.5
3	11.2	8.7	9.6	7.3	13.9	4.7	17.3	24.5	21.7	2.7	2.4	13.6	14.1	9.0	14.7	14.6
4	11.3	8.8	8.7	7.6	16.3	3.9	22.2	24.8	22.5	8.5	2.2	14.3	15.1	8.5	13.2	14.7
5	10.5	5.9	8.3	6.9	15.6	3.4	22.3	25.0	22.8	6.5	4.2	14.2	14.8	8.2	13.3	15.5
6	12.5	5.7	9.5	7.3	14.9	2.9	19.4	23.2	23.5	10.0	6.8	13.4	16.1	7.2	15.2	17.0
7	13.6	7.3	10.5	7.4	14.4	1.4	20.2	22.8	22.6	10.5	4.3	12.0	15.4	7.2	17.6	17.0
8	14.2	8.2	10.4	6.3	12.9	4.4	22.4	22.2	22.4	10.9	3.7	11.4	14.7	7.1	16.2	16.7
9	14.4	8.1	10.5	5.6	12.3	6.8	21.3	22.3	22.4	8.0	3.6	11.2	14.9	8.7	16.1	16.7
10	14.4	8.7	11.4	6.4	10.6	7.6	19.0	22.4	20.4	6.9	7.4	11.2	14.4	6.9	14.4	17.1
11	15.2	9.3	11.7	6.9	7.5	9.2	21.4	22.4	19.1	3.6	9.4	11.4	15.4	8.6	15.2	17.1
Noon.	17.0	10.0	12.4	6.9	5.4	9.4	23.4	23.2	16.6	1.6	7.6	14.4	15.3	10.7	14.2	17.4
1h	18.1	10.9	12.4	6.4	4.4	9.6	20.4	22.1	16.0	2.6	9.4	17.5	16.2	11.4	14.1	17.8
2	19.1	11.9	12.4	6.6	3.4	9.4	21.8	22.3	12.6	2.6	11.4	17.2	16.2	11.4	15.4	18.1
3	18.9	11.8	13.4	6.4	1.7	10.4	21.4	22.2	11.4	2.6	11.4	18.4	14.4	11.4	13.6	18.1
4	18.7	11.7	12.7	6.4	+ 1.4	10.9	20.8	23.4	10.4	+0.8	11.4	18.6	15.6	12.0	13.6	18.3
5	18.4	11.6	12.0	6.4	- 0.3	12.4	18.4	22.4	7.4	-0.7	10.4	19.4	16.2	11.4	18.4	18.4
6	18.0	11.4	12.0	6.6	1.0	12.4	19.4	22.6	6.5	1.2	10.4	19.7	15.9	15.4	17.8	18.1
7	17.8	11.3	12.4	6.0	3.0	12.8	20.2	24.2	- 1.0	1.2	12.2	18.9	14.1	14.7	17.6	17.7
8	17.5	11.2	12.4	6.6	5.2	14.7	22.4	22.7	+ 2.4	1.2	14.2	18.0	12.4	14.6	16.8	17.4
9	17.3	11.2	11.4	5.4	4.4	17.4	24.4	20.4	3.4	3.2	14.2	16.8	11.4	12.4	17.4	17.4
10	16.0	10.8	10.4	4.2	4.4	18.6	21.7	22.4	3.5	2.4	14.2	17.4	11.3	14.1	17.4	17.6
11	-14.9	-10.4	-10.1	-2.4	- 4.4	-18.4	-17.4	-23.4	+ 4.4	-5.4	-14.2	-17.2	- 9.9	-13.4	-16.4	-17.4
Means.	-15.14	- 9.99	-10.95	-6.50	+ 6.09	- 8.95	-20.26	-23.00	-13.73	+ 2.98	- 7.95	-15.27	-14.52	-10.60	-15.24	-16.89

DECEMBER, 1871.

Time.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Means.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0h	-17.4	-25.4	-11.6	- 7.1	-12.4	-22.4	-22.4	-29.4	-18.2	-21.2	-27.2	-27.9	-19.1	-19.1	-17.5	-14.86
1	16.9	25.4	11.4	7.4	13.1	22.7	23.2	29.9	22.4	20.9	24.6	31.4	19.9	17.4	20.0	15.26
2	17.5	24.7	11.0	7.8	12.9	22.6	22.9	30.2	22.7	21.4	24.5	29.4	20.0	16.6	21.0	15.12
3	17.8	24.8	9.9	8.6	16.4	22.1	23.0	30.3	26.9	21.4	27.8	28.8	21.3	15.2	22.8	15.71
4	17.4	26.3	9.0	8.8	15.1	22.1	23.9	29.6	28.4	21.3	24.6	27.8	27.8	17.0	18.9	15.54
5	17.9	26.5	6.6	9.1	17.1	22.2	24.3	28.4	26.6	23.1	24.3	26.6	26.8	16.9	18.2	14.77
6	20.0	26.3	4.3	9.2	18.2	22.2	24.5	27.1	29.2	23.4	21.3	25.6	29.0	20.4	17.2	15.89
7	20.9	26.2	4.1	10.1	20.4	23.1	24.8	25.9	30.0	23.6	21.2	25.9	23.4	19.2	17.6	15.51
8	21.6	27.7	4.4	12.0	22.9	23.2	26.5	26.1	29.6	22.1	20.7	26.7	22.9	23.8	19.6	15.69
9	21.4	27.9	4.2	12.1	19.5	21.2	27.4	25.4	28.4	21.3	21.2	29.6	22.6	15.4	19.8	15.47
10	21.4	26.7	3.6	12.4	22.9	21.4	27.4	25.2	32.4	21.4	21.4	27.4	21.8	19.2	17.7	15.69
11	21.2	25.2	3.5	12.4	22.7	22.2	26.7	29.4	28.2	20.2	26.1	27.4	24.1	17.9	21.2	16.44
Noon.	21.1	24.1	3.4	12.8	21.9	17.2	25.4	26.0	31.4	19.8	24.4	31.6	22.4	19.6	21.4	16.26
1h	21.4	22.2	3.4	14.0	24.4	16.8	25.4	25.9	30.4	21.8	27.0	25.7	18.6	20.4	20.9	16.25
2	20.4	20.7	3.4	13.4	24.4	17.4	24.4	25.9	33.4	20.4	27.4	19.4	20.9	19.0	19.9	16.14
3	20.2	20.7	3.4	12.4	23.2	17.2	24.4	24.4	31.9	18.6	27.1	16.4	17.6	17.8	20.8	15.97
4	20.4	19.4	3.6	13.4	23.4	18.2	25.2	23.4	29.4	19.1	24.2	16.2	16.8	17.4	24.4	16.03
5	19.3	19.4	3.7	12.6	22.9	19.1	27.4	23.1	27.0	22.4	25.4	16.2	17.4	18.4	24.2	16.22
6	18.4	19.4	3.6	12.4	24.4	18.7	28.2	22.4	24.6	23.4	25.6	16.0	15.2	17.4	26.0	16.26
7	21.2	14.2	3.9	12.2	24.2	18.4	27.2	22.2	21.2	26.4	25.9	15.9	14.2	19.1	26.2	16.05
8	22.2	13.9	4.4	11.8	24.1	18.2	26.2	21.7	21.5	26.4	25.4	15.9	13.2	18.0	27.0	15.96
9	20.6	12.8	5.4	11.4	23.6	17.6	28.4	21.4	21.9	28.4	26.4	16.7	13.8	16.6	25.8	15.87
10	21.4	12.6	6.4	10.9	24.2	17.1	28.2	24.4	19.4	25.8	28.1	17.6	16.4	20.1	26.4	16.08
11	-23.4	-12.4	- 6.7	-10.9	-22.4	-16.7	-28.4	-19.2	-17.5	-27.8	-27.9	-18.4	-18.4	-18.0	-26.4	-15.66
Means.	-20.06	-21.87	- 5.62	-11.05	-20 69	-24.58	-25.66	-25.70	-24.92	-22.57	-20.82	-23.35	-20.15	-14.10	-21.70	-15.79

JANUARY, 1872.

Time.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	-26.4	-25.4	-20.4	-16.3	-33.4	-27.4	-31.2	-30.2	-35.4	-23.7	-27.4	-28.9	-29.6	-24.2	-22.7	-12.9
1	26.4	25.7	21.4	15.4	33.1	29.2	30.1	31.2	36.4	23.4	26.6	30.2	30.4	24.6	22.2	14.9
2	....	24.7	16.2	14.8	33.8	30.4	26.4	31.4	38.9	23.2	26.4	32.1	30.2	24.1	22.9	16.7
3	28.0	25.5	17.0	15.0	27.3	30.4	25.7	29.3	42.4	22.4	26.2	29.4	30.6	27.3	23.0	17.8
4	24.7	24.0	17.8	13.3	24.5	26.7	29.4	29.8	43.4	23.2	26.6	28.9	28.8	25.4	22.8	16.8
5	26.2	24.9	19.0	12.9	23.8	25.4	30.5	28.7	44.6	24.4	27.2	28.4	27.7	25.1	26.3	17.9
6	29.7	24.9	17.5	17.7	25.2	27.8	30.8	26.6	43.4	23.2	28.2	28.2	26.6	24.9	26.6	16.3
7	30.3	26.1	16.9	18.2	23.9	26.7	29.4	28.1	42.3	23.2	27.7	27.9	26.6	25.7	26.3	17.1
8	28.8	23.2	17.8	18.2	19.2	27.1	29.7	27.9	41.7	23.4	30.2	29.4	27.4	26.4	27.7	17.7
9	27.4	23.4	17.9	21.7	17.7	23.8	29.7	29.6	44.4	23.4	29.7	30.1	26.7	26.1	28.2	16.1
10	25.9	23.7	17.7	25.4	21.4	25.9	27.9	29.4	45.4	23.7	30.8	29.9	28.4	26.0	28.2	18.4
11	26.9	24.9	18.2	26.8	23.4	32.6	28.9	28.4	45.5	26.0	31.3	30.4	29.6	26.2	28.2	18.2
Noon.	27.2	25.4	17.2	27.6	21.1	32.9	26.8	27.8	44.8	26.2	29.2	30.7	26.9	26.2	26.2	18.2
1^h	26.4	22.2	17.4	27.7	22.8	30.4	27.0	28.2	39.4	26.8	28.0	30.9	27.4	26.4	25.2	23.4
2	26.7	17.7	17.8	28.4	25.4	32.8	27.4	28.6	43.4	26.2	28.8	29.8	30.4	25.7	22.4	24.5
3	....	18.4	16.1	28.9	26.4	32.4	27.6	30.0	39.7	26.4	31.4	30.4	27.4	24.2	21.2	25.4
4	....	18.4	17.1	30.0	27.7	30.4	27.9	28.7	40.2	26.6	32.7	30.2	25.7	26.2	19.4	27.4
5	25.0	18.4	16.2	30.6	27.6	29.5	28.2	29.7	37.4	27.4	32.0	30.4	25.4	24.4	18.4	27.2
6	24.4	18.4	15.4	30.2	29.3	28.9	28.5	33.4	36.3	26.6	30.4	30.0	25.1	24.3	13.4	29.4
7	24.6	17.4	18.2	32.4	29.3	27.2	28.7	33.1	34.3	26.2	29.7	29.7	25.9	24.9	12.9	30.8
8	24.4	18.4	18.4	33.1	29.1	30.2	29.0	35.2	35.3	29.7	28.1	30.4	24.4	25.8	12.4	28.7
9	25.4	18.4	18.4	32.4	26.7	28.2	29.3	35.4	31.7	29.4	26.4	29.8	23.9	26.4	12.7	28.4
10	26.9	19.2	17.5	32.9	26.1	30.5	29.6	36.9	26.4	26.6	26.0	30.7	24.3	26.6	12.6	29.3
11	-24.4	-19.8	-19.1	-35.2	-26.1	-30.3	-29.8	-36.9	-24.0	-27.2	-27.6	-30.6	-24.0	-22.4	-13.4	-25.4
Means.	-26.44	-22.02	-17.69	-24.38	-26.[illegible]5	-29.05	-29.89	-30.60	-39.03	-25.35	-28.69	-29.89	-27.23	-25.39	-21.47	-21.62

JANUARY, 1872.

Time.	1	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Means.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	-23.9	-30.2	-27.3	-26.4	-5.9	-7.3	- 3.4	-21.8	-12.1	-23.4	-23.3	-28.4	-31.4	- 8.6	- 4.4	-23.65
1	22.7	30.3	26.7	25.5	5.4	7.5	5.2	22.0	15.3	25.8	23.2	27.6	35.4	8.2	4.3	22.78
2	23.9	30.6	29.5	20.5	4.7	7.3	6.6	23.3	12.9	32.4	22.6	26.3	25.2	8.1	4.5	22.77
3	18.7	29.1	26.8	22.2	5.4	-1.4	8.3	23.2	19.1	28.9	24.4	22.7	26.4	9.2	6.9	22.26
4	18.3	33.0	26.8	15.4	5.7	+0.4	9.3	23.4	20.4	25.4	23.1	24.1	24.1	10.2	7.1	22.00
5	23.4	30.7	27.9	13.1	6.1	1.4	10.7	24.2	22.6	20.7	25.0	25.4	22.3	10.7	7.4	21.99
6	23.2	30.3	28.5	13.2	6.1	1.4	12.4	24.7	25.4	20.2	25.6	26.7	20.9	9.7	7.8	22.29
7	24.1	30.7	26.4	13.4	5.7	1.5	13.1	24.2	29.9	18.9	27.7	27.5	18.2	8.6	8.4	22.31
8	27.2	30.5	25.9	13.0	5.2	3.0	12.4	21.2	28.7	17.2	25.0	23.4	15.5	7.7	9.8	22.11
9	29.0	30.9	28.2	13.2	4.4	2.7	13.1	20.8	26.6	19.2	27.1	22.7	16.4	6.1	9.9	21.96
10	29.4	31.8	25.6	13.4	4.6	2.4	14.7	24.6	24.2	14.4	28.5	22.4	14.6	6.7	10.0	22.24
11	29.4	30.1	23.7	13.4	3.6	2.3	14.0	17.7	23.4	14.2	24.9	24.4	13.6	8.8	11.9	22.46
Noon.	31.1	27.2	25.8	13.3	3.6	2.2	12.4	18.4	22.5	14.4	27.9	27.8	14.9	8.8	10.4	22.29
1^h	29.6	27.4	24.5	12.1	2.8	2.3	12.4	17.9	22.4	14.6	21.0	28.5	14.6	6.6	11.2	21.71
2	29.4	27.3	26.8	11.7	2.6	2.7	12.5	17.9	20.1	15.0	23.1	28.4	14.0	7.1	11.9	21.64
3	28.1	29.8	24.8	11.4	2.1	3.0	16.3	14.6	16.0	17.4	25.2	28.3	13.4	7.2	11.6	21.77
4	29.4	30.9	26.6	10.8	1.6	3.3	18.8	15.4	15.4	21.0	24.9	31.6	12.8	9.2	14.1	21.36
5	29.1	24.7	24.6	9.9	1.3	3.0	19.8	15.8	16.4	20.4	27.4	30.5	12.5	8.8	15.2	21.97
6	28.2	29.9	26.1	9.0	1.5	3.3	20.8	14.4	20.9	23.4	25.4	32.3	13.4	8.4	12.8	22.17
7	27.2	28.9	24.0	8.3	1.6	4.4	20.4	13.7	23.9	23.2	29.4	32.1	12.4	11.3	14.0	22.30
8	27.2	26.9	22.6	9.2	1.3	4.2	21.9	13.4	24.1	22.4	28.4	31.3	10.5	6.2	12.5	22.46
9	27.4	29.4	24.5	7.6	1.9	3.6	20.7	14.4	27.3	18.7	26.8	32.0	10.6	3.6	12.3	21.82
10	28.8	28.4	25.8	7.1	2.4	2.4	18.1	11.8	25.5	18.7	26.6	30.3	10.3	3.4	13.8	21.70
11	-29.6	-27.5	-26.7	-6.2	-4.7	+1.4	-18.6	-11.4	-26.2	-22.4	-26.3	-37.4	- 8.8	- 5.9	-16.9	-22.01
Means.	-26.59	-29.44	-26.09	-13.30	-3.76	+1.14	-14.00	-18.76	-21.72	-20.51	-25.53	-28.00	-17.18	- 7.88	-10.38	-22.23

FEBRUARY, 1872.

Time.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	-19.0	-25.3	-29.6	-27.8	-28.7	-26.5	-25.8	-18.8	-19.4	-22.7	- 7.4	-18.8	-10.4	-22.5	-33.3	-30.8
1	18.6	25.8	30.4	26.8	28.4	27.9	26.5	17.7	19.2	23.2	7.7	19.6	9.1	25.7	35.1	33.9
2	17.9	26.0	30.8	26.4	26.6	26.4	27.5	16.4	18.1	21.4	9.7	19.5	7.9	23.4	34.9	32.1
3	19.4	26.4	30.6	23.4	25.2	26.4	27.2	19.4	17.8	23.2	11.4	20.4	7.6	25.4	35.1	32.7
4	19.6	26.4	31.4	23.9	25.2	26.9	27.7	18.1	18.1	20.9	11.2	21.9	7.4	25.8	35.6	35.9
5	19.8	26.6	31.2	23.4	24.9	26.5	28.4	18.9	19.9	19.1	10.4	24.2	7.2	26.4	36.7	31.7
6	20.0	27.1	30.9	25.9	26.2	26.4	29.2	19.7	19.4	16.7	10.1	21.6	7.1	26.6	38.3	34.1
7	20.4	26.4	30.6	26.4	30.7	23.5	30.4	20.4	19.4	15.4	7.1	21.4	7.3	26.6	36.5	31.1
8	20.4	26.2	30.4	26.9	32.2	21.6	31.9	20.2	19.9	16.2	6.0	20.9	7.4	26.6	35.7	31.1
9	21.4	28.4	30.1	28.2	25.4	19.4	30.4	19.9	20.8	16.0	8.2	19.1	8.1	27.2	40.2	29.4
10	20.4	28.4	29.4	25.9	24.4	20.2	28.1	19.4	21.6	11.9	11.4	17.4	8.1	26.1	42.9	28.6
11	21.8	26.8	29.2	26.9	23.4	21.5	28.4	23.8	18.9	14.1	14.8	15.8	9.4	25.5	40.0	29.2
Noon.	20.8	26.6	29.8	27.8	23.3	25.8	29.3	23.3	21.1	14.4	14.4	15.4	14.2	28.7	46.6	27.4
1^h	21.4	25.7	29.4	26.4	26.9	26.3	28.4	23.2	20.8	15.2	15.8	17.1	15.3	31.1	39.8	25.3
2	21.4	24.4	27.4	25.8	23.2	25.8	30.1	23.9	19.1	15.0	16.9	17.6	15.7	30.0	39.1	26.9
3	21.5	24.3	28.4	26.9	24.0	22.9	30.3	24.3	19.5	15.8	16.7	15.6	21.8	29.0	37.6	23.3
4	21.3	22.0	28.0	28.3	22.4	23.3	24.4	24.7	17.0	11.4	17.4	19.0	19.5	31.9	36.9	24.0
5	21.3	20.4	29.2	28.2	23.3	26.1	25.6	24.7	20.7	12.1	17.2	19.5	22.2	33.8	35.6	24.3
6	22.2	20.7	28.4	30.9	25.0	26.4	26.3	24.0	22.2	11.0	17.6	21.5	21.6	30.3	36.4	24.5
7	22.3	23.9	29.7	27.6	22.7	25.4	25.8	22.4	21.4	14.4	17.8	15.4	21.6	30.6	33.6	26.9
8	21.9	27.2	29.9	27.6	25.9	28.5	25.5	23.7	20.9	11.7	18.3	15.5	22.1	31.4	30.4	26.4
9	22.9	25.9	28.9	27.9	26.4	29.0	18.8	19.8	21.6	11.4	17.6	13.8	21.4	35.1	28.3	26.0
10	23.7	24.6	27.0	25.8	27.1	29.4	16.5	18.3	19.3	10.4	18.0	12.0	22.3	35.5	29.3	23.9
11	-25.2	-24.2	-28.1	-26.4	-25.7	-25.2	-17.9	-18.5	-22.5	-10.4	-18.5	- 9.7	-21.1	-33.7	-30.7	-24.9
Means.	-21.03	-25.40	-29.53	-26.73	-25.74	-25.30	-26.68	-20.88	-19.94	-15.58	-13.40	-18.03	-13.99	-28.71	-36.19	-28.52

FEBRUARY, 1872.

Time.	17	18	19	20	21	22	23	24	25	26	27	28	29	Means.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	-26.3	-7.1	- 5.8	-20.8	-26.7	-34.6	-37.4	-31.4	-24.7	- 6.6	-19.8	-23.0	-13.7	-22.23
1	24.4	+0.6	5.5	22.5	27.0	32.9	36.2	32.2	22.5	6.4	20.2	22.9	14.7	22.23
2	24.2	6.8	5.7	20.9	27.6	33.8	38.7	32.6	21.9	6.7	19.3	23.2	15.2	22.34
3	27.1	6.1	6.6	23.1	26.9	35.9	39.4	35.1	21.1	7.4	20.3	22.9	15.4	22.34
4	27.4	5.6	6.9	23.7	27.2	36.4	41.4	34.4	19.4	8.6	25.7	21.9	15.9	23.04
5	27.9	5.0	7.4	24.4	27.4	36.0	42.4	33.4	18.6	9.9	30.4	20.4	16.4	23.27
6	28.4	+0.6	8.6	25.4	30.2	37.2	38.4	34.4	17.7	11.1	32.4	19.4	16.6	23.38
7	28.1	-1.1	9.2	25.8	32.4	36.7	41.0	34.4	16.6	12.7	30.4	18.4	16.8	23.37
8	28.4	1.9	10.4	26.4	32.2	37.4	39.0	34.3	15.6	14.4	29.2	17.9	17.2	23.37
9	30.2	2.4	11.1	26.9	34.7	37.1	38.6	33.9	14.9	14.4	30.4	19.1	18.4	23.59
10	30.4	1.4	11.5	26.9	35.9	36.4	33.6	33.9	14.2	14.9	22.7	19.4	19.2	23.26
11	30.4	1.6	13.1	26.8	34 6	37.0	33.9	34.4	15.8	17.1	21.5	18.9	19.4	23.38
Noon.	29 4	2.0	15.0	26.6	36.4	37.0	33.1	33.6	16.4	18.3	21.2	17.4	21.9	24.03
1^h	27.9	1.7	16.3	26.4	33.7	36.6	32.3	33.5	15.5	17.4	17.9	16.9	23.4	23.71
2	25.6	1.6	18.1	26.3	32.2	36.8	30.4	33.4	14.5	18.7	18.8	16.6	25.2	23.47
3	23.6	2.4	17.4	26.8	31.3	37.6	30.0	33.6	13.6	20.0	17.8	16.6	26.4	23.41
4	21.4	2.4	19.4	27.5	32.9	37.7	32.0	32.4	12.1	20.8	19.3	17.6	27.9	23.62
5	20.8	3.0	20.7	27.8	31.4	38.2	32.4	33.0	11.2	21.8	22.4	17.4	29.2	23.91
6	19.8	3.6	19.9	28.0	31.2	38.4	32.2	31.4	11.9	22.8	23.8	15.8	30.4	24.08
7	18.7	3.8	20.7	28.4	31.2	37.3	31.4	29.5	11.3	22.2	24.2	15.3	31.2	24.02
8	18.4	4.1	19.9	28.4	31.5	38.2	31.2	29.4	10.9	21.8	23.4	14.8	32.1	23.83
9	15.6	4.4	20.7	27.9	31.4	38.4	30.6	29.0	10.5	22.9	22.7	14.7	32.9	23.28
10	15.4	4.5	23.1	27.6	32.8	37.2	29.5	27.5	8.5	21.5	22.6	14.3	34.4	22.83
11	-14.0	-5.4	-22.3	-27.4	-31.0	-38.5	-29.1	-26.2	- 7.6	-21.0	-22.3	-12.4	-35.6	-22.60
Means.	-24.33	-1.24	-13.97	-25.95	-31.24	-36.80	-35.18	-32.37	-15.29	-15.81	-23.28	-18.22	-22.89	-23.28

MARCH, 1872.

Time.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	-35.6	-36.0	-41.6	-38.3	-20.2	-17.2	-32.4	-40.8	-44.5	-32.8	-33.4	-31.3	-30.2	-27.2	-31.1	-32.5
1	36.3	36.8	38.2	38.2	20.4	17.4	32.9	40.0	42.2	32.1	32.8	31.4	29.8	26.7	30.4	27.4
2	36.9	37.4	37.4	37.2	20.4	17.5	33.4	40.2	43.4	31.9	32.6	29.8	30.4	26.4	30.0	19.4
3	37.1	37.4	38.6	38.4	19.2	17.4	32.2	40.4	44.6	32.4	33.4	30.5	30.2	27.5	33.6	20.7
4	37.6	37.6	38.3	38.6	18.2	17.1	29.8	39.9	45.3	32.2	34.2	29.6	30.7	29.2	30.8	22.9
5	37.6	36.9	38.6	39.0	17.2	17.6	23.5	39.7	45.8	31.3	34.3	30.0	31.9	31.2	35.7	21.5
6	37.4	38.3	39.3	38.0	16.7	17.7	36.7	41.4	46.0	31.9	35.7	29.8	30.6	31.2	33.9	20.0
7	37.6	39.6	37.4	33.1	16.5	17.9	37.2	40.0	44.2	31.4	36.3	30.2	31.4	30.5	31.8	16.6
8	38.1	39.5	39.0	30.9	16.4	19.9	38.5	39.9	43.4	30.7	34.7	29.8	32.2	31.1	25.3	20.5
9	38.1	40.2	39.8	31.0	16.5	20.8	37.3	39.3	44.0	31.4	34.7	29.3	30.4	32.6	23.3	19.4
10	37.9	39.0	45.2	31.0	16.1	21.7	38.4	39.6	43.6	30.0	36.4	30.2	23.3	30.6	24.3	20.0
11	37.4	38.3	38.3	30.2	16.2	21.5	37.7	39.6	43.0	29.9	31.3	33.4	21.2	29.7	23.0	21.7
Noon.	37.4	38.2	37.5	30.2	16.3	24.6	38.6	40.1	42.0	32.7	36.6	30.4	22.2	32.8	23.4	22.0
1^h	37.3	37.4	36.3	30.6	16.1	27.9	37.7	43.6	42.4	32.1	34.9	30.6	21.9	29.3	25.6	23.9
2	36.9	38.6	36.6	30.2	15.6	30.3	38.6	41.6	43.6	34.1	34.3	26.8	21.6	28.6	23.5	22.3
3	36.8	39.2	36.8	26.4	16.2	31.4	38.3	43.7	43.5	34.9	34.6	27.4	24.6	31.6	22.4	20.7
4	36.8	39.2	36.1	25.7	16.1	31.1	38.4	44.3	42.5	35.4	33.4	28.7	24.3	30.5	27.5	19.9
5	36.9	38.7	37.3	24.4	16.2	31.0	39.2	44.2	41.2	34.9	33.9	26.8	26.7	30.9	28.2	19.8
6	36.2	38.6	36.3	23.0	15.7	31.2	40.1	43.1	41.0	34.5	30.6	31.2	26.5	33.8	28.2	22.4
7	36.1	38.3	36.3	21.8	15.9	31.1	40.7	40.4	39.3	34.2	35.4	33.4	23.4	34.9	30.2	23.9
8	36.6	37.3	35.8	21.4	15.4	31.3	40.7	40.8	39.0	33.9	31.6	31.4	27.7	34.7	32.7	31.6
9	36.4	33.6	37.2	21.2	16.2	31.6	40.9	42.1	38.6	33.8	31.4	31.9	25.9	33.6	33.1	30.9
10	36.6	41.1	37.5	20.4	16.6	31.9	41.0	42.0	38.0	33.6	31.4	31.1	24.9	32.7	34.1	32.7
11	-36.0	-38.5	-38.2	-19.9	-17.4	-31.8	-41.3	-43.3	-34.6	-33.5	-31.2	-30.4	-24.9	-31.4	-34.4	-35.4
Means.	-36.98	-37.69	-38.07	-29.96	-16.99	-24.53	-36.89	-41.25	-42.34	-32.73	-35.38	-30.23	-26.95	-29.66	-29.02	-23.67

MARCH, 1872.

Time.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Means.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	-30.9	-16.0	-27.8	- 7.9	-21.6	-30.2	-23.6	-23.1	-20.9	-18.4	-1.4	+3.2	6.0	-9.7	±0.0	-24.49
1	31.2	16.6	26.6	7.4	21.6	30.6	24.2	22.2	20.6	17.6	0.9	2.8	7.5	7.8	-1.4	24.08
2	31.6	16.9	25.6	6.6	22.0	31.4	25.0	21.0	20.9	16.4	0.7	2.5	10.1	7.4	2.7	23.87
3	31.2	17.2	25.1	9.5	22.7	30.6	24.7	20.0	25.4	13.5	1.4	2.3	12.8	7.0	3.4	24.38
4	28.9	18.6	25.3	11.5	24.1	30.2	24.5	20.7	22.8	12.4	1.9	2.1	13.9	6.8	4.4	24.38
5	29.4	21.2	25.5	12.7	25.7	30.4	24.3	19.8	23.9	11.6	3.4	2.4	14.6	6.7	3.8	24.59
6	27.4	22.3	26.7	13.6	26.3	29.6	23.9	19.4	23.7	10.4	3.1	2.6	12.4	2.9	4.2	24.87
7	23.6	24.0	26.0	14.2	26.4	27.1	23.4	18.7	21.2	9.1	2.8	2.4	13.9	-1.4	3.6	24.02
8	24.7	22.6	24.5	15.1	27.3	26.5	22.6	19.1	19.1	9.4	1.4	2.6	8.4	+0.9	4.1	23.59
9	19.4	18.9	19.4	15.6	27.9	25.4	21.9	19.8	20.4	9.4	-0.1	3.1	12.4	0.1	4.1	23.21
10	18.9	20.5	17.4	15.8	28.4	24.4	21.5	17.4	19.3	7.6	+1.1	3.6	12.4	1.6	4.8	22.88
11	15.8	23.5	18.8	17.8	27.4	23.2	21.0	16.8	17.0	8.2	1.6	3.9	9.7	0.6	6.9	22.33
Noon.	14.4	21.8	12.8	16.9	26.1	23.6	20.6	17.1	15.5	7.4	2.7	4.3	10.4	0.6	5.1	22.23
1^h	14.0	21.0	16.2	16.0	26.3	23.4	19.9	14.4	16.8	6.4	3.4	4.6	11.2	0.6	6.8	22.30
2	13.6	24.3	16.9	16.4	27.1	24.0	19.4	16.6	19.4	5.7	3.0	3.7	13.6	3.6	5.4	22.42
3	14.4	23.9	17.3	16.8	27.2	24.4	20.0	16.4	18.2	5.2	3.4	3.6	11.0	3.8	4.4	22.45
4	8.9	28.0	18.5	17.4	27.4	24.9	20.9	18.2	17.9	5.1	3.2	2.2	11.9	4.6	3.1	22.65
5	10.4	24.4	13.9	18.1	27.1	24.0	21.3	18.2	17.8	5.4	3.2	1.6	16.2	4.1	4.5	22.65
6	12.8	29.6	14.3	18.7	28.5	23.4	22.1	19.2	19.8	5.5	3.0	+0.5	15.1	2.2	5.7	23.24
7	13.5	25.9	14.3	19.2	27.6	22.9	23.3	21.4	20.1	4.4	3.3	-1.2	17.2	2.3	7.1	23.48
8	14.1	30.7	12.7	19.4	28.9	22.8	24.5	21.6	20.5	4.0	3.6	2.7	16.5	1.7	5.6	23.89
9	14.7	21.0	11.8	19.8	29.1	22.6	25.7	21.4	21.9	2.9	3.6	2.4	16.2	1.6	4.1	23.44
10	15.2	28.9	9.6	20.2	29.7	22.9	25.0	21.5	23.2	2.4	3.6	3.4	14.9	+0.6	2.9	23.88
11	-15.8	-26.7	- 9.1	-20.7	-29.9	-23.2	-24.1	-21.2	-21.4	- 1.9	+3.4	-4.9	-13.2	±0.0	-0.9	-23.61
Means.	-20.20	-22.69	-19.00	-15 30	-25.26	-25.90	-22.81	-19.38	-20.32	- 8.35	+1.04	+1.64	-12.56	-0.87	-4.08	-23.47

APRIL, 1872.

Time.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	+0.4	- 4.9	-22.4	-17.9	-19.8	-10.0	-10.2	-4.9	-6.7	-10.6	-17.7	-22.7	-31.3	-27.6	-28.9	-26.9
1	-0.1	4.3	24.7	15.3	21.0	13.6	12.4	4.6	6.9	10.5	18.0	26.3	28.4	30.1	29.0	29.2
2	+0.3	3.1	25.3	13.4	22.8	18.4	16.9	4.8	7.4	11.6	20.7	30.1	23.9	31.7	28.7	28.4
3	0.6	1.8	27.2	17.1	18.9	18.0	13.6	5.0	7.9	12.1	21.3	33.7	17.4	33.2	24.4	25.4
4	0.6	1.1	28.0	20.2	15.7	14.9	12.9	4.7	7.4	11.9	21.7	26.2	12.7	32.2	21.0	25.8
5	0.9	1.7	24.8	11.1	12.5	12.4	7.9	4.4	6.7	14.9	20.2	23.4	18.6	26.4	19.1	23.4
6	1.6	2.4	24.1	11.9	11.7	12.3	6.0	4.2	6.1	14.7	19.1	22.2	19.9	20.8	19.7	21.9
7	1.7	7.1	20.4	7.4	9.1	7.6	6.9	3.4	5.4	14.1	15.2	21.2	19.4	20.4	21.2	20.2
8	2.1	12.6	19.2	7.6	6.8	7.0	9.7	2.4	4.9	14.1	14.6	20.2	18.4	19.4	15.4	18.4
9	2.4	10.4	16.8	9.6	6.6	5.4	7.7	2.1	4.4	14.1	15.0	20.4	17.9	19.1	14.5	16.1
10	1.5	10.6	18.4	10.4	5.4	4.4	7.4	-1.4	3.4	13.0	12.7	23.4	18.4	20.4	11.7	15.1
11	2.1	10.4	15.2	10.8	5.4	5.8	6.4	+0.4	3.1	12.9	14.1	21.4	17.4	19.1	11.4	13.4
Noon.	+0.6	10.4	10.4	10.4	4.4	7.4	7.4	+0.9	3.9	10.4	11.9	20.4	16.4	19.1	13.4	14.7
1^h	±0.0	12.0	12.3	7.4	4.4	8.3	6.8	-2.4	3.8	9.6	13.2	19.9	14.9	17.9	14.0	14.6
2	+0.4	11.7	13.3	10.7	4.4	8.0	6.6	6.3	3.7	9.0	12.8	19.4	15.9	18.7	13.6	14.7
3	+0.4	12.1	10.7	12.2	3.3	7.7	5.4	6.6	4.0	8.9	12.4	21.6	15.2	19.4	14.3	15.4
4	-1.6	11.8	14.0	15.0	4.0	7.3	7.9	3.9	4.4	10.9	14.0	20.0	15.5	21.0	14.4	15.6
5	2.4	16.5	13.4	11.5	4.2	7.2	7.9	4.9	6.4	11.3	15.4	21.2	14.9	20.0	12.9	15.4
6	2.4	17.9	20.5	19.4	4.3	7.2	5.0	4.5	6.6	11.4	16.4	24.4	15.6	18.3	12.9	16.2
7	2.4	21.9	19.5	21.0	4.3	7.9	5.3	4.4	7.4	12.2	18.0	29.9	15.9	19.4	14.3	18.6
8	2.9	21.5	19.6	19.1	4.5	7.9	3.8	4.0	7.4	14.1	19.4	28.6	18.2	19.9	16.9	19.0
9	3.1	20.4	16.1	13.1	4.4	8.3	3.4	4.4	7.4	15.9	18.2	29.2	20.4	19.1	17.4	19.4
10	4.7	25.8	17.4	15.5	7.7	8.5	4.9	5.4	8.1	16.4	19.1	28.9	21.7	24.4	18.4	22.1
11	-4.6	-23.0	-19.6	-18.2	- 8.9	- 8.7	- 4.7	-6.4	-8.3	-17.0	-20.5	-30.1	-24.9	-26.7	-23.6	-24.3
Means.	-0.34	-11.49	-18.89	-13.59	- 8.94	- 9.34	- 7.79	-3.87	-5.90	-12.57	-16.73	-24.37	-18.88	-22.68	-20.42	-19.76

APRIL, 1872.

Time.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Means.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	-28.8	-23.4	-20.4	-20.4	- 6.8	+18.1	+12.1	+12.6	+2.1	-4.7	-9.1	-6.5	- 2.0	+2.2	-11.24
1	33.1	28.9	18.8	22.1	5.8	17.1	12.9	12.5	0.6	3.9	8.8	6.6	- 0.3	2.0	11.92
2	37.3	29.4	17.9	22.4	4.7	16.8	14.6	12.3	+0.1	4.0	8.7	6.7	+ 1.6	1.6	12.21
3	31.4	28.6	17.1	19.2	3.7	16.3	14.3	12.0	-0.8	2.8	7.4	4.9	1.1	0.9	11.59
4	31.9	29.4	17.1	18.5	2.7	16.6	13.9	11.9	+0.2	2.2	6.2	3.5	4.6	0.9	10.64
5	26.1	21.9	15.4	17.9	1.8	15.7	13.1	11.7	-1.1	0.8	4.4	-1.5	5.5	1.1	9.30
6	23.5	22.0	11.4	17.5	- 1.7	15.1	12.6	11.4	0.9	-0.1	-1.9	+0.9	5.7	1.9	8.33
7	22.4	21.0	10.7	13.0	+ 0.8	16.3	13.6	12.6	0.7	+0.4	+0.6	4.1	7.2	2.6	7.70
8	19.1	17.2	10.4	12.4	+ 1.6	16.6	13.6	11.9	0.8	4.6	3.6	5.1	8.6	4.8	6.93
9	19.0	15.1	7.9	11.7	- 0.1	13.6	13.6	13.5	0.9	3.0	3.8	7.6	10.6	5.6	5.37
10	15.4	14.4	7.4	15.4	+ 2 6	16.3	14.6	13.3	0.9	6.5	3.6	7.6	9.8	4.8	4.93
11	14.9	12.4	7.4	9.4	1.3	16.3	14.6	13.1	1.2	5.0	2.6	6.1	10.8	4.6	4.51
Noon.	14.4	13.4	6.7	8.4	1.9	18.8	14.6	14.6	1.4	4.4	2.8	7.5	9.4	3.6	4.27
1^h	14.4	13.2	6.9	9.9	1.6	13.8	14.8	15.5	2.4	3.4	2.8	4.1	9.4	3.1	4.66
2	16.0	15.2	7.2	9.6	1.4	14.9	15.3	14.6	3.2	2.9	2.4	2.8	10.2	1.8	5.11
3	19.0	14.8	9.0	7.9	2.4	15.9	15.1	13.4	3.8	2.2	2.4	3.7	9.6	2.1	5.22
4	18.4	12.9	10.1	6.4	5.1	15.6	14.6	12.8	3.4	1.3	0.8	2.8	10.1	1.8	5.59
5	22.6	16.7	9.7	5.4	6.8	17.7	14.1	13.9	4.1	0.2	+0.5	2.0	9.8	1.6	6.04
6	22.4	20.4	9.7	5.6	10.4	12.6	14.4	13.0	4.6	+0.4	-1.1	2.4	8.1	+0.4	6.83
7	23.4	20.4	8.2	5.8	11.1	11.5	13.6	11.1	3.7	-1.7	2.2	1.3	7.0	-1.7	7.63
8	25.0	19.8	9.8	7.9	14.6	12.8	13.8	8.9	4.1	2.3	3.6	+0.3	5.6	2.4	8.19
9	24.4	22.4	11.4	5.4	15.6	11.5	13.5	6.6	4.4	4.7	5.7	-0.3	4.8	2.9	8.30
10	25.5	18.7	16.7	8.6	19.6	9.9	12.9	5.6	4.2	7.8	5.8	1.9	4.1	4.1	8.67
11	-27.6	-17.7	-24.7	- 7.8	+18.5	+11.6	+13.0	+ 3.6	-4.3	-9.6	-6.6	-1.7	+ 2.5	-4.4	-10.82
Means.	-23.17	-19.55	-12.17	-12.03	+ 4.27	+15.06	+13.88	+11.77	-1.92	-0.43	-1.90	+1.03	+ 6.41	+1.33	- 7.77

MAY, 1872.

Time.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	-5.8	+0.4	+0.4	-3.4	-8.9	-0.9	+ 6.8	+ 4.4	+ 4.8	+ 4.5	+ 7.6	+ 7.0	+ 8.6	+15.1	+15.6	+18.4
1	5.7	0.6	-0.5	-2.9	8.4	0.4	6.1	3.6	6.7	3.7	7.9	7.9	8.8	15.8	14.9	18.6
2	4.6	0.4	2.7	+1.2	5.8	0.6	6.5	4.5	6.0	6.1	7.7	7.6	10.1	14.5	16.5	18.6
3	5.7	1.2	1.8	2.0	4.3	-0.1	4.8	5.6	7.2	7.4	8.9	8.3	10.6	16.0	17.6	18.8
4	4.7	4.1	-0.1	3.6	2.8	+0.5	5.6	8.6	7.6	7.6	8.3	8.1	11.7	16.9	18.9	18.7
5	5.4	4.4	+2.6	3.4	2.8	0.9	6.0	8.2	11.1	9.7	9.6	8.8	12.9	18.2	19.2	20.4
6	4.3	5.2	3.6	3.1	1.8	1.9	5.5	8.6	13.7	8.0	10.4	10.1	13.7	18.4	20.1	20.6
7	2.8	5.9	5.6	2.8	0.6	3.6	7.1	8.7	13.5	9.9	9.1	10.9	14.6	18.6	20.5	20.5
8	-1.7	5.8	7.6	3.6	-0.7	2.8	7.5	12.5	13.7	14.4	10.8	12.4	14.9	19.7	21.5	21.4
9	+1.5	5.6	7.0	2.8	+0.3	5.8	7.9	13.7	13.8	16.1	10.6	11.6	15.8	21.0	21.6	21.6
10	0.4	6.4	6.9	2.8	-0.8	6.4	8.4	13.9	14.6	14.9	10.5	12.3	16.0	20.8	22.6	21.5
11	0.4	7.1	5.2	2.4	+0.4	6.4	7.9	11.8	14.6	13.9	10.4	12.2	16.6	21.1	22.6	23.1
Noon.	1.4	7.6	4.6	1.6	0.4	6.1	8.8	12.0	14.8	14.6	9.6	11.4	16.1	21.3	22.4	22.8
1^h	0.2	8.1	3.8	+1.2	0.2	8.4	8.4	10.8	15.1	15.4	10.2	11.8	16.6	21.0	22.4	23.6
2	2.6	8.6	3.4	-1.6	1.4	8.2	9.4	9.9	13.4	15.6	9.6	12.6	16.9	20.7	22.3	23.6
3	1.6	8.4	3.6	3.4	1.4	7.0	8.3	9.6	13.1	15.4	9.6	11.9	16.6	20.4	22.5	23.3
4	3.1	8.8	3.2	3.9	1.0	8.9	10.1	8.6	13.5	14.1	9.3	12.9	16.9	19.9	23.1	22.6
5	1.2	7.9	3.2	4.9	+0.4	9.6	10.0	8.3	13.6	13.1	9.1	12.1	17.0	19.4	22.6	22.4
6	3.4	6.2	2.1	4.7	-0.5	9.0	8.6	7.8	12.1	12.1	8.6	11.8	15.3	19.2	21.8	21.6
7	1.1	3.7	1.6	5.4	-0.9	9.1	7.9	7.6	11.6	11.2	8.2	10.7	15.6	18.3	21.6	21.6
8	+1.9	3.4	1.8	6.7	+0.4	6.9	7.6	7.4	11.4	9.8	7.9	10.5	15.6	17.9	20.6	21.1
9	-0.1	2.9	+1.0	7.9	1.1	6.1	7.4	7.6	10.6	9.5	7.7	9.6	11.8	16.6	20.1	19.6
10	+1.1	2.2	-1.7	9.2	1.5	6.0	5.0	7.1	9.6	9.2	7.6	9.1	14.5	16.8	19.8	20.7
11	+1.3	+0.9	-3.7	-9.7	+0.6	+6.4	+ 4.3	+ 6.5	+ 5.8	+ 8.1	+ 8.0	+ 8.6	+14.1	+17.9	+18.8	+17.9
Means.	-0.82	+1.83	+2.36	-1.38	-1.22	+4.92	+ 7.33	+ 8.47	+11.33	+11.01	+ 9.05	+10.43	+14.64	+18.56	+20.40	+20.96

MAY, 1872.

Time.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Means.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	+18.3	+17.1	+18.9	+23.6	+25.5	+30.1	+28.6	+25.6	+27.5	+23.6	+22.8	+22.6	+20.9	+20.9	+19.6	+13.55
1	18.6	17.5	18.9	23.6	26.3	29.6	28.6	26.4	27.6	24.1	22.6	22.6	21.5	21.6	20.9	13.78
2	19.3	17.6	18.6	22.6	26.1	29.8	28.1	26.9	27.9	25.8	21.9	22.6	20.1	23.6	22.0	14.16
3	19.8	18.8	20.9	24.6	26.9	28.7	28.0	26.8	27.9	25.6	22.1	22.4	20.3	23.4	22.7	14.68
4	18.6	18.6	19.6	25.0	26.6	29.6	28.6	26.5	27.9	26.1	21.9	22.6	21.1	24.3	23.4	15.26
5	19.7	20.6	21.5	26.8	27.8	28.6	28.3	25.8	27.6	26.1	22.3	23.0	20.9	24.5	24.4	15.97
6	19.4	23.5	22.0	25.4	29.0	28.7	28.1	26.8	28.4	27.2	23.5	23.5	20.5	25.2	24.9	16.55
7	20.9	22.2	23.3	24.7	30.7	29.6	28.9	27.9	28.7	26.6	23.2	25.5	21.5	25.6	25.7	17.19
8	22.2	23.4	22.9	26.6	31.6	28.9	27.8	27.2	27.7	27.2	23.3	25.7	22.5	26.5	26.1	17.93
9	21.9	22.8	23.2	26.9	32.3	30.7	27.5	29.4	28.2	27.6	22.9	26.7	23.0	26.0	25.6	18.43
10	22.7	23.5	24.1	26.8	32.6	31.6	27.6	29.2	28.6	28.6	25.0	26.6	23.1	26.7	25.0	18.69
11	21.2	22.1	25.1	25.8	32.6	32.1	27.6	29.3	30.2	28.0	25.7	26.1	23.0	26.8	25.6	18.62
Noon.	20.6	22.5	24.6	26.4	32.1	30.8	26.6	29.4	31.1	28.2	23.7	26.8	23.6	26.8	26.1	18.54
1^h	20.4	22.9	26.8	26.3	32.4	29.6	26.4	28.8	30.2	30.4	25.6	27.0	24.7	27.0	27.2	18.80
2	20.1	21.7	26.8	26.2	32.6	30.6	26.6	29.8	29.6	29.2	24.4	26.4	26.0	26.6	26.4	18.69
3	20.0	22.4	26.9	25.8	33.2	30.3	25.8	30.4	28.8	30.6	24.5	26.8	25.5	25.8	25.6	18.44
4	20.0	21.8	26.6	25.7	33.0	30.3	26.6	29.8	28.8	30.5	23.8	26.6	24.6	25.1	25.6	18.42
5	20.1	21.4	26.4	25.8	32.8	29.7	26.7	29.5	29.0	28.6	23.5	24.6	24.1	24.5	23.9	17.92
6	19.3	21.4	26.1	26.1	32.4	30.2	27.0	28.2	27.4	26.6	23.1	23.8	23.1	24.1	24.9	17.35
7	19.6	20.6	25.6	25.8	31.8	30.6	27.8	28.9	28.1	26.3	23.8	22.8	23.6	23.9	25.4	17.03
8	19.6	18.9	25.1	26.6	31.8	29.4	27.4	28.6	27.8	26.1	23.1	22.3	23.0	23.6	25.6	16.66
9	17.6	18.9	24.3	25.9	31.6	30.3	27.1	28.4	26.8	25.1	22.8	21.6	23.1	23.0	25.4	15.98
10	17.6	18.6	22.8	25.8	31.8	29.7	27.6	28.6	26.0	24.5	22.6	22.6	22.4	22.6	25.6	15.75
11	+16.8	+18.6	+23.6	+25.4	+30.6	+28.9	+26.9	+27.2	+24.1	+23.6	+22.4	+22.0	+21.3	+22.1	+26.6	+15.67
Means.	+19.76	+20.73	+23.5[illegible]	+25.59	+30.59	+20.93	+27.51	+28.14	+28.16	+26.93	+23.35	+24.30	+22.64	+24.59	+24.76	+16.81

JUNE, 1872.

Time.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	+26.4	+30.1	+34.6	+36.7	+37.6	+37.6	+38.6	+37.7	+36.1	+37.6	+31.7	+31.9	+30.8	+32.7	+33.6	+42.0
1	25.6	30.6	36.8	35.2	37.6	36.6	36.6	42.8	35.2	34.9	30.8	30.8	31.6	32.6	35.2	42.8
2	26.2	30.4	35.8	36.6	37.9	38.4	40.6	39.6	33.4	38.1	30.5	30.6	32.2	32.4	33.7	42.4
3	26.6	30.6	37.5	38.1	38.6	39.8	39.2	38.3	35.7	38.3	31.0	31.0	33.4	32.0	34.5	43.2
4	27.3	31.6	37.1	38.6	38.9	40.7	37.0	39.4	35.7	40.4	31.9	31.9	34.6	31.7	33.9	43.5
5	27.1	31.9	36.6	39.3	40.8	41.7	35.8	39.1	34.0	38.6	32.2	32.2	33.4	33.0	33.7	43.8
6	27.4	31.6	35.4	39.9	35.4	43.8	37.6	37.4	36.2	42.4	32.3	32.6	33.3	35.0	33.5	34.6
7	27.6	32.8	35.0	39.6	36.6	44.6	41.1	36.8	40.7	40.4	31.2	32.8	35.5	33.4	33.6	34.3
8	28.6	33.0	35.2	40.6	39.6	44.5	40.6	38.3	36.3	40.8	31.5	34.5	37.6	33.3	33.6	35.3
9	29.4	33.6	36.1	41.6	39.6	43.5	44.8	39.7	34.6	41.6	31.8	34.1	37.8	34.2	33.4	36.7
10	29.0	34.7	39.3	41.3	41.0	43.6	46.4	39.7	33.6	41.6	32.6	33.8	38.9	35.7	34.2	37.2
11	28.7	33.0	39.9	41.4	40.1	44.1	44.5	37.6	35.5	42.1	31.8	33.3	38.2	38.1	35.7	36.8
Noon.	28.8	34.5	39.6	41.4	39.1	40.1	42.0	38.2	34.4	42.3	32.6	32.3	35.3	38.6	37.4	37.1
1^h	28.9	34.2	38.9	41.1	40.0	39.8	44.0	38.0	35.6	37.6	32.6	32.4	35.2	38.3	37.8	37.1
2	29.8	34.0	37.6	42.0	39.6	41.4	42.5	39.6	35.4	38.0	32.1	32.3	35.2	39.5	38.5	37.5
3	30.8	33.6	36.8	40.4	41.4	41.6	42.1	39.2	34.5	34.6	32.4	32.3	34.4	37.6	36.6	37.7
4	31.3	33.5	36.6	39.8	41.8	40.5	42.2	37.8	35.8	34.6	33.1	32.4	33.4	37.6	35.9	38.0
5	31.2	34.6	36.1	39.6	38.1	40.6	38.1	38.5	35.7	34.1	32.8	33.1	33.0	37.1	34.6	38.8
6	30.6	33.4	36.8	38.7	39.6	38.6	38.2	37.5	35.5	34.5	32.6	32.4	33.3	35.7	35.3	39.5
7	30.5	33.6	38.1	42.9	38.3	39.6	38.4	37.6	36.7	33.4	32.5	31.6	32.7	35.1	33.0	37.7
8	30.1	33.6	38.6	36.6	38.1	40.1	41.0	36.6	36.4	33.0	32.5	30.6	32.6	34.4	32.7	37.5
9	29.9	33.6	38.6	39.8	36.9	41.4	40.5	37.5	36.1	32.5	31.8	31.1	32.6	35.2	32.7	36.6
10	30.2	34.1	40.3	36.6	36.1	36.6	38.2	35.9	36.0	32.1	31.3	31.3	32.3	33.8	41.1	36.9
11	+30.1	+35.1	+38.8	+38.9	+36.8	+35.6	+36.6	+35.6	+37.6	+32.1	+30.8	+31.5	+33.2	+34.4	+42.3	+35.2
Means.	+28.84	+32.99	+37.34	+39.45	+38.73	+40.62	+40.28	+38.27	+35.69	+37.32	+31.93	+32.20	+34.19	+30.89	+35.27	+38.43

JUNE, 1872.

Time.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Means.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	+34.9	+30.0	+32.0	+35.1	+37.2	+36.5	+35.9	+43.1	+37.2	+45.8	+31.6	+35.8	+35.7	+36.2	+35.42
1	34.6	30.1	32.0	34.3	34.2	34.3	34.4	41.0	35.6	47.6	31.5	34.6	40.2	35.1	35.17
2	38.3	30.3	31.6	35.0	34.8	34.2	33.8	45.5	35.9	46.2	31.9	36.4	33.8	42.9	35.31
3	34.1	30.1	31.5	34.6	32.3	33.5	34.6	48.1	36.4	47.6	31.1	36.8	33.6	42.7	35.83
4	35.6	29.7	31.6	34.1	32.3	36.0	39.9	41.6	36.7	47.8	30.8	37.3	34.1	43.9	36.19
5	37.9	29.8	31.7	34.1	33.3	35.3	37.7	40.4	36.8	45.7	30.4	38.8	34.4	47.9	36.25
6	39.4	30.2	31.9	35.5	33.3	34.6	36.7	40.9	37.4	43.8	30.0	44.1	33.0	51.6	36.36
7	37.3	31.2	31.9	36.1	31.6	34.5	37.6	39.7	37.9	38.2	29.8	43.6	33.3	48.6	36.51
8	38.8	31.7	32.2	36.8	31.6	34.9	38.9	39.5	38.7	37.2	29.6	42.7	32.5	48.2	36.89
9	36.0	32.8	34.0	38.3	32.6	36.2	40.4	38.4	40.2	36.6	33.4	41.0	34.5	48.4	37.18
10	34.5	34.8	33.6	39.9	32.1	34.5	36.6	38.6	38.9	37.9	38.7	39.4	31.6	48.5	37.41
11	33.4	32.8	33.0	43.6	33.0	35.2	37.7	38.6	39.9	37.6	37.7	37.9	34.8	48.4	37.48
Noon.	32.4	37.1	34.2	43.6	34.1	34.9	35.8	39.3	41.3	37.6	38.2	37.5	34.4	48.4	37.42
1^h	33.7	35.8	34.8	40.8	34.6	34.5	34.1	38.5	40.8	37.3	39.8	36.5	40.4	48.5	37.39
2	33.1	34.9	34.7	40.8	33.3	33.9	34.3	39.1	40.5	37.0	36.8	34.7	38.6	46.4	37.10
3	32.6	36.6	35.6	40.5	33.1	33.0	33.1	39.3	40.6	36.8	38.8	34.2	37.6	44.8	36.75
4	32.7	34.6	37.6	40.1	32.6	33.2	34.0	38.6	40.8	36.7	35.9	33.1	38.1	47.6	36.66
5	32.4	34.6	37.3	42.3	32.3	33.8	34.8	38.8	40.0	36.5	36.0	33.4	40.0	46.4	36.48
6	31.9	34.0	36.5	41.4	33.1	34.2	34.4	38.4	39.7	35.6	37.0	35.6	39.4	45.1	36.28
7	31.2	33.1	36.0	40.1	33.3	33.9	33.7	38.0	40.2	35.4	35.4	33.8	37.1	43.6	35.88
8	31.6	33.5	34.9	40.0	34.0	34.5	34.0	38.1	40.0	35.6	34.8	34.8	38.6	45.7	35.82
9	30.8	33 1	35.3	39.8	34.5	35.0	36.1	38.4	41.1	34.2	35.1	36.4	44.2	47.6	36.28
10	30.6	32.4	34.6	38.4	35.2	35.6	44.6	37.0	44.2	33.3	35.8	31.2	44.1	48.4	36.27
11	+30.3	+32.1	+31.4	+35.6	+35.7	+35.9	+43.8	+37.2	+48.2	+32.4	+34.6	+36.6	+45.1	+48.4	+36.50
Means.	+34.09	+32.72	+33.87	+38.37	+33.50	+34.67	+36.54	+39.84	+39.54	+39.18	+34.36	+36.93	+37.05	+45.97	+36.45

JULY, 1872.

Time.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	+47.6	+37.9	+51.1	+47.8	+48.9	+42.2	+39.3	+37.8	+37.9	+39.4	+40.7	+36.3	+38.2	+34.6	+36.6	+37.7
1	48.9	35.5	50.2	48.0	48.7	42.0	40.0	37.0	38.3	39.7	40.8	37.1	38.5	34.6	36.4	37.1
2	46.8	34.8	49.9	47.3	48.4	41.8	42.2	36.9	38.9	39.5	39.9	40.6	38.6	34.5	36.7	38.0
3	49.0	35.0	46.8	47.5	48.2	41.5	43.6	36.2	39.7	40.0	40.2	39.6	38.6	34.0	36.3	38.5
4	46.8	35.0	43.6	47.5	47.0	41.3	44.0	35.1	40.5	39.6	40.6	40.6	38.1	33.8	36.3	38.5
5	47.8	36.8	44.6	47.7	47.6	40.9	43.7	36.0	39.9	39.8	40.2	39.1	37.6	34.2	37.0	39.7
6	46.2	37.8	42.8	47.0	48.0	40.5	42.9	35.9	40.2	38.9	39.9	44.6	37.6	34.5	37.1	40.4
7	45.8	37.4	44.6	46.8	48.2	40.3	42.5	37.0	40.5	39.0	38.8	45.1	37.2	35.1	37.1	40.6
8	48.5	37.0	53.0	46.3	48.5	39.7	42.2	36.8	40.7	38.7	39.2	47.4	36.6	35.6	37.4	40.0
9	49.1	37.3	53.0	46.0	49.0	39.5	41.7	36.5	39.8	39.2	39.7	45.2	37.6	36.1	38.1	39.6
10	47.3	39.5	44.8	45.9	49.6	39.0	41.5	36.9	39.7	39.6	38.9	46.5	38.1	35.9	36.7	38.0
11	50.1	50.1	44.8	45.7	49.9	38.6	41.0	37.0	40.2	41.0	38.9	39.9	38.5	37.2	36.3	39.6
Noon.	48.1	49.6	43.7	45.4	50.2	38.2	40.8	36.7	40.5	39.9	39.5	41.6	38.8	37.5	36.4	41.4
1^h	51.1	49.3	44.1	45.5	50.8	37.9	39.7	36.0	40.8	39.8	39.3	39.4	37.2	39.0	36.6	39.6
2	51.8	51.9	41.9	44.5	51.5	37.7	39.0	35.6	40.8	39.2	39.3	39.6	39.1	39.2	37.4	38.6
3	51.8	51.4	42.9	44.8	51.0	38.2	39.2	35.8	40.2	40.0	38.9	39.4	37.4	37.9	37.0	39.0
4	51.8	51.4	41.3	45.3	49.9	38.4	38.9	36.0	39.9	40.3	39.0	38.5	37.3	37.2	37.0	39.0
5	52.1	51.0	42.8	46.1	48.6	37.6	39.5	36.4	39.7	40.7	39.1	38.0	36.4	36.6	36.5	38.4
6	52.3	51.0	41.8	47.4	45.4	37.4	39.5	36.7	39.8	41.0	38.7	37.9	35.6	36.5	37.5	38.2
7	46.1	50.8	48.2	46.9	44.2	38.0	38.9	36.5	40.0	41.3	38.4	37.9	35.6	36.8	36.5	37.0
8	44.2	50.9	48.3	49.4	43.4	37.2	39.3	36.8	39.6	41.7	38.3	37.7	35.6	36.1	36.5	37.1
9	41.6	49.8	47.8	50.3	42.8	37.0	39.0	36.9	39.0	41.9	38.1	38.5	35.9	35.5	36.6	37.3
10	41.9	50.5	49.1	49.8	42.6	38.1	38.6	37.2	38.9	41.5	37.5	38.0	34.6	35.9	36.6	37.6
11	+43.4	+50.9	+47.9	+49.7	+42.0	+38.6	+38.2	+37.5	+39.2	+40.9	+36.8	+38.4	+34.6	+36.1	+36.9	+36.3
Means.	+47.92	+44.28	+46.21	+47.05	+47.68	+39.23	+40.63	+36.55	+39.78	+39.36	+39.19	+40.29	+37.22	+36.35	+36.81	+38.63

JULY, 1872.

Time.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Means.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	+35.9	+36.6	+37.9	+35.5	+43.5	+41.6	+39.7	+41.6	+35.9	+39.6	+39.6	+41.6	+38.6	+39.6	+38.9	+39.04
1	35.4	36.8	37.5	35.6	41.6	42.1	39.2	39.0	35.8	37.3	39.1	41.6	38.9	39.6	39.6	38.77
2	34.7	37.1	37.2	39.8	42.0	42.4	37.6	38.8	35.6	37.3	39.6	42.1	38.3	39.9	39.8	38.93
3	34.7	36.3	37.4	40.5	45.3	42.1	38.1	39.9	35.9	38.6	39.8	42.0	39.6	39.6	39.4	39.16
4	33.8	35.9	37.7	41.3	44.7	42.1	38.8	39.5	35.6	39.2	40.0	44.4	39.7	39.1	38.4	38.98
5	33.7	36.4	37.4	37.1	42.6	42.6	39.6	39.7	37.0	38.8	39.4	47.4	40.3	39.4	38.8	39.12
6	33.8	36.4	37.6	36.3	44.9	43.2	39.8	39.4	39.6	41.6	39.6	44.4	44.1	38.8	39.1	39.45
7	33.6	36.4	37.7	40.5	47.2	54.3	39.2	39.2	42.3	38.6	39.4	46.4	45.0	37.6	37.1	40.02
8	34.6	35.9	38.1	44.6	46.7	45.3	40.1	39.3	40.8	42.7	39.6	41.9	47.1	37.6	37.1	40.29
9	34.6	35.9	37.6	37.6	45.9	45.2	38.3	39.2	39.6	42.1	41.2	43.2	47.6	37.5	37.9	40.03
10	36.1	35.9	38.3	38.1	46.4	44.8	37.6	38.8	41.0	41.2	44.1	45.1	49.3	38.7	37.9	40.04
11	37.6	35.8	37.6	39.7	45.7	46.2	38.3	38.6	41.7	42.6	44.6	43.2	47.4	39.1	37.9	40.48
Noon.	37.3	35.4	37.4	38.6	45.8	41.8	38.3	37.6	42.4	45.5	44.8	44.5	47.0	39.6	37.8	40.33
1^h	38.0	36.1	37.6	38.1	43.6	42.2	37.6	37.2	43.2	42.6	47.6	44.2	45.8	39.4	37.8	40.23
2	38.3	36.0	37.6	39.4	43.0	41.6	37.4	37.2	44.0	45.6	44.6	45.4	44.8	37.9	38.1	40.26
3	38.1	36.6	39.4	38.7	45.1	40.6	37.1	37.4	44.2	41.9	43.4	44.7	42.4	37.6	38.6	40.02
4	38.4	38.0	41.4	40.0	42.8	42.0	36.6	37.3	38.5	42.1	45.2	42.1	44.4	36.6	38.9	39.85
5	39.4	38.8	39.6	40.6	42.6	40.6	35.8	37.6	38.8	40.1	45.8	41.5	44.0	37.5	37.8	39.68
6	38.4	37.6	40.4	41.6	43.8	40.6	37.1	38.8	37.7	40.6	44.4	42.2	44.5	37.6	38.7	39.68
7	37.9	37.9	40.8	39.8	43.6	39.6	37.1	37.9	33.0	39.4	44.6	41.6	42.6	37.1	37.7	39.15
8	37.7	38.4	41.3	41.0	44.6	40.6	37.8	37.6	32.4	39.6	43.6	40.7	42.9	37.6	37.6	39.21
9	38.2	38.0	40.6	39.6	43.6	39.6	36.4	38.6	37.5	40.1	43.2	38.1	40.4	38.4	37.3	38.95
10	37.8	37.6	41.9	42.1	43.9	40.0	37.6	37.6	38.8	39.4	43.0	38.3	39.9	38.2	36.4	39.06
11	+37.1	+37.9	+39.6	+41.9	+43.9	+39.3	+37.6	+36.6	+49.6	+38.6	+42.2	+39.1	+39.7	+38.1	+35.8	+39.20
Means.	+36.46	+36.82	+38.73	+39.50	+44.28	+42.52	+38.03	+38.52	+38.74	+40.63	+42.43	+42.74	+43.10	+38.42	+38.10	+39.58

AUGUST, 1872.

Time.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	+35.2	+38.0	+37.6	+34.8	+40.6	+36.6	+35.9	+36.8	+38.2	+39.6	+35.4	+33.1	+30.8	+30.6	+33.4	+32.3
1	36.4	38.6	37.8	34.3	40.8	36.6	36.9	36.9	38.6	37.1	33.1	32.9	30.6	30.8	30.9	33.7
2	36.0	38.9	38.3	34.6	41.0	37.8	36.9	36.9	38.3	37.0	32.5	31.9	30.6	33.6	29.6	32.1
3	38.6	39.6	37.8	36.9	40.6	38.6	36.3	36.4	39.8	38.6	36.5	37.4	31.8	31.8	29.9	32.7
4	36.3	38.8	37.9	39.1	41.6	40.9	35.6	35.3	40.1	42.0	39.6	38.6	36.1	31.5	30.2	33.4
5	34.6	40.1	38.4	38.8	44.8	40.8	35.4	35.4	41.3	43.6	46.3	42.4	36.5	32.6	30.4	34.1
6	35.3	41.8	39.4	36.6	42.5	39.4	35.8	35.3	41.1	42.2	41.9	40.2	34.1	34.4	31.4	34.8
7	36.8	42.4	40.0	36.8	46.0	37.6	36.6	36.1	42.6	42.4	38.6	45.6	37.2	37.0	32.2	36.0
8	35.2	43.2	41.0	43.1	45.2	38.9	36.6	37.2	44.4	42.2	44.2	43.3	40.6	34.8	33.6	39.6
9	37.7	41.7	39.1	44.6	45.7	43.2	36.1	40.9	43.6	42.2	46.1	43.6	39.4	36.4	34.0	35.0
10	39.6	40.9	39.3	48.5	44.2	45.4	38.3	45.0	43.2	42.8	47.6	46.1	38.8	36.7	34.4	37.6
11	37.9	40.6	39.1	49.4	45.1	38.9	37.6	39.2	43.8	42.6	46.5	45.9	36.6	36.6	39.8	36.1
Noon.	39.5	41.6	38.9	49.0	43.6	39.9	37.9	40.3	42.6	41.2	47.0	44.6	37.9	37.4	36.6	35.9
1^h	38.6	43.4	39.6	49.6	43.6	40.8	38.6	39.4	45.6	41.6	45.4	41.9	42.9	35.8	36.3	35.1
2	40.3	41.9	39.0	52.4	42.3	36.9	38.0	39.9	44.4	40.6	38.3	41.9	44.6	34.8	35.8	34.8
3	38.6	41.9	40.0	48.3	43.1	39.6	37.9	39.9	42.0	37.7	37.1	38.6	43.1	35.6	35.4	34.3
4	40.3	40.6	38.6	40.6	41.8	36.8	39.4	39.1	42.5	45.6	37.4	35.8	39.3	35.2	35.2	32.8
5	40.2	40.7	37.8	41.1	41.6	37.1	39.1	39.8	42.3	37.5	36.1	40.0	33.2	34.4	34.9	32.4
6	38.8	41.2	37.6	43.8	40.4	38.4	39.5	39.8	43.8	37.2	33.6	33.4	33.5	35.3	37.1	32.1
7	41.0	39.3	36.4	41.5	38.9	38.1	39.0	40.4	43.1	35.0	32.8	30.6	33.8	35.1	36.6	32.0
8	39.1	38.5	36.0	40.6	40.4	37.2	37.1	40.9	42.6	34.9	35.2	32.7	32.6	35.9	36.1	32.4
9	39.7	38.6	35.2	40.2	39.3	37.6	37.6	40.6	43.1	36.3	34.6	31.5	32.7	35.9	34.6	32.4
10	39.2	37.6	34.5	40.1	37.6	36.8	37.0	38.0	44.1	35.9	33.8	31.6	31.2	35.2	33.6	31.7
11	+38.1	+37.2	+34.5	+40.0	+36.6	+35.6	+37.4	+39.1	+40.8	+34.9	+33.9	+30.7	+31.6	+34.4	+33.0	+30.7
Means.	+38.04	+40.29	+38.08	+41.86	+41.97	+38.73	+37.35	+38.69	+42.16	+39.61	+38.89	+38.09	+34.15	+34.66	+33.96	+33.92

AUGUST, 1872.

Time.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Means.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	+31.9	+31.1	+29.6	+33.9	+33.7	+31.4	+34.3	+29.1	+26.9	+25.6	+31.6	+27.6	+28.9	+26.9	+31.3	+32.99
1	31.6	30.6	29.1	34.3	33.6	30.6	33.9	28.1	26.6	25.6	30.0	27.6	28.3	25.8	32.1	32.70
2	31.0	30.9	29.3	34.4	34.1	31.3	33.9	28.6	27.0	26.6	29.6	27.6	28.3	27.4	32.3	33.17
3	31.3	30.9	29.4	34.1	32.6	32.4	33.6	29.4	27.4	27.8	29.4	28.6	28.3	27.8	32.3	33.83
4	32.2	30.7	29.4	33.3	32.8	32.1	33.4	29.4	26 6	25.8	28.8	27.5	......	25.6	32.3	33.72
5	33.0	31.2	30.4	33.3	33.8	32.8	33.3	30.5	27.8	26.5	30.6	27.8	28.6	26.8	32.2	33.68
6	33.2	31.6	31.1	34.3	34.4	33.1	33.8	32.4	31.8	27.6	32.0	29.7	29.8	27.6	32.6	33.91
7	33.6	32.1	32.2	36.2	36.1	33.4	33.6	35.0	32.6	29.1	33.4	29.8	32.1	28.8	33.6	35.05
8	34.8	32.9	34.2	35.7	38.5	33.9	35.9	36.7	36.4	30.8	35.6	32.6	30.3	29.8	33.7	36.29
9	34.9	31.1	34.1	36.2	42.9	35.5	34.1	38.0	37.6	31.2	35.4	33.6	31.7	30.6	33.6	36.77
10	34.4	39.8	35.2	35.5	46.9	35.8	35.9	39.9	41.8	32.5	36.6	35.4	33.0	31.0	33.8	39.23
11	34.6	43.1	39.3	35.4	42.7	34.9	36.7	38.5	43.4	33.1	37.7	34.9	33.1	33.8	35.9	39.09
Noon.	36.6	45.3	40.6	36.1	42.3	34.6	37.9	37.1	38.4	32.6	39.6	38.9	35.8	37.6	35.9	39.46
1^h	36.6	44.9	41.6	......	42.9	34.1	37.9	38.4	41.3	33.3	38.4	40.3	37.3	35.8	35.9	39.78
2	36.9	42.9	39.3	36.6	40.8	34.3	38.0	39.4	36.6	34.6	40.0	40.3	39.9	40.9	35.9	39 43
3	36.1	43.6	35.6	36.8	37.4	34.3	36.4	39.6	35.8	34.9	39.3	42.3	38.0	39.8	36.9	38.71
4	35.3	42.4	43.1	36.3	35.0	34.4	35.9	36.3	32.1	35.0	39.0	39.5	36.3	33.0	36.6	37.72
5	35.9	44.1	43.7	41.6	33.1	34.4	36.0	36.0	31.6	35.4	39.6	40.0	38.3	32.1	36.6	37.63
6	35.0	41.9	41.1	37.9	35.6	34.2	35.3	34.1	31.4	35.6	40.0	35.6	38.8	35.1	35.3	37.17
7	34.5	39.8	34.4	35.5	32.8	33.9	33.8	32.0	30.0	33.9	35.4	33.5	31.6	34.8	34.3	35.61
8	33.0	35.8	36.4	34.2	31.9	33.7	32.6	31.0	28.7	34.6	30.5	32.1	31.3	31.6	33.6	34.94
9	33.2	33.0	34.4	33.2	31.2	33.7	31.6	29.7	28.5	31.6	29.6	31.4	30.4	30.6	32.1	34.33
10	32.3	32.1	33.0	32.7	31.0	33.6	30.4	28.6	27.6	31.5	28.7	29.8	30.4	30.2	32.4	33.62
11	+31.6	+29.6	+34.6	+31.9	31.2	+33.5	+29.4	+27.6	+26.1	+31.2	+27.9	+29.8	+28.9	+30.5	+32.6	+33.06
Means.	+33.89	+36.73	+35.05	+34.82	+36.14	+33.58	+34.48	+33.56	+32.25	+31.10	+34.11	+33.18	+32.41	+31.41	+33.91	+35.91

From the preceding record of temperatures it will be seen that March was the coldest and July the warmest month of the year. The absolute minimum of —45°.5 occurred in January and the absolute maximum of +53°.0 in July.

The following table contains the absolute maxima and minima as observed in each month, giving also the day and hour of occurrence:

Months.	Maximum.	Minimum.	Day of maximum.	Hour of maximum.		Day of minimum.	Hour of minimum.	
	°	°						
January	+ 4.4	—45.5	23	....	7 p. m.	9	11 a. m.	....
February	+ 6.8	—42.4	18	2 a. m.	....	18	5 a. m.	....
March	+ 4.6	—45.2	28 and 30	....	1 and 4 p. m.	3	10 a. m.	....
April	+19.6	—33.2	21	....	10 p. m.	14	3 a. m.	....
May	+32.6	— 9.7	21	....	2 p. m.	4	....	11 p. m.
June	+48.6	+25.6	30	7 a. m.	....	1	1 a. m.	....
July	+53.0	+32.4	3	8 and 9 a. m.	....	25	....	8 p. m.
August	+52.4	+25.6	4	....	2 p. m.	26	0 and 1 a. m.	....
September	+31.0	+14.1	4	7 a. m.	....	30	....	11 p. m.
October	+16.0	—19.0	7	5 a. m.	....	27	....	2 p. m.
November	+15.1	—25.9	6	....	8 p. m.	27	10 a. m.	....
December	+15.6	—30.3	5	5 a. m.	....	24	3 a. m.	....

The two following tables give the daily means of temperature for each month, and also the monthly means, as derived from the hourly (or as it happens in September and October, eight-hourly, otherwise interpolated) observations:

TABLE I.

Daily means of temperature observed at Polaris Bay.

Date.	September, 1871.	October, 1871.	November, 1871.	December, 1871.	January, 1872.	February, 1872.	March, 1872.	April, 1872.	May, 1872.	June, 1872.	July, 1872.	August, 1872.
	°	°	°	°	°	°	°	°	°	°	°	°
1	+26.11	+12.52	—17.06	—15.14	—26.44	—21.03	—36.98	- 0.34	— 0.82	+28.84	+47.92	+38.04
2	28.90	11.95	21.15	9.99	22.02	25.40	37.69	11.49	+ 4.83	32.99	44.28	40.29
3	28.46	12.35	21.25	10.95	17.69	29.53	38.07	18.89	+ 2.36	37.34	46.21	38.08
4	27.12	11.25	19.62	— 6.50	24.38	26.73	29.96	13.59	— 1.38	39.45	47.05	41.86
5	24.08	10.77	— 8.14	+ 6.09	26.05	25.74	16.99	8.94	— 1.22	38.73	47.68	41.97
6	24.68	12.56	+10.23	— 8.95	29.05	25.30	21.53	9.34	+ 4.92	40.62	39.23	38.73
7	26.81	12.70	10.42	20.26	29.89	26.68	36.89	7.79	7.33	40.28	40.63	37.35
8	28.05	7.48	6.59	23.00	30.60	20.98	41.25	3.87	8.47	38.27	36.55	38.69
9	27.08	8.42	11.01	—13.73	39.03	19.94	42.32	5.90	11.33	35.69	39.78	42.16
10	20.73	11.57	9.90	+ 2.98	25.35	15.58	32.73	12.57	11.01	37.32	39.36	39.61
11	14.87	+ 7.50	3.23	— 7.95	28.69	13.40	35.38	16.73	9.05	31.93	39.19	38.89
12	20.37	— 1.25	+ 4.23	15.27	29.89	18.03	30.23	24.37	10.43	32.20	40.29	38.09
13	17.36	3.15	— 5.88	14.52	27.23	13.99	26.95	18.88	14.64	34.19	37.22	34.15
14	19.61	1.75	9.24	10.60	25.39	28.71	29.66	22.68	18.56	30.89	36.35	34.66
15	24.51	3.68	14.87	15.24	21.47	36.19	29.02	20.42	20.40	35.27	36.81	33.96
16	21.95	6.93	9.55	16.89	21.62	28.52	23.67	19.76	20.96	38.43	38.63	33.92
17	16.82	12.15	2.95	20.06	26.59	24.33	20.20	23.17	19.76	34.09	36.46	33.89
18	24.27	13.38	0.45	21.87	29.44	1.24	22.69	19.55	20.73	32.72	35.82	36.73
19	19.77	13.12	9.75	5.62	26.09	13.97	19.00	12.17	23.53	33.87	38.73	35.05
20	29.72	8.10	15.00	11.05	13.30	25.95	15.30	—12.03	25.59	38.37	39.50	34.82
21	31.92	4.52	16.70	20.69	— 3.76	31.24	25.26	+ 4.27	30.59	33.50	44.28	36.14
22	29.31	6.28	18.40	24.58	+ 1.14	36.80	25.90	15.06	29.93	34.67	42.52	33.58
23	23.84	4.71	20.12	25.66	—14.00	35.18	22.81	13.88	27.51	36.54	38.03	34.48
24	22.43	2.80	20.12	25.70	18.76	32.37	19.38	+11.77	28.14	39.84	38.52	33.56
25	20.14	2.13	23.50	24.92	21.72	15.29	20.32	— 1.92	28.16	39.54	38.74	32.25
26	15.42	9.10	18.69	22.57	20.51	15.81	— 8.35	0.43	26.93	39.18	40.63	31.10
27	23.88	16.23	21.86	20.82	25.53	23.28	+ 1.04	— 1.90	23.35	34.36	42.43	34.11
28	27.37	17.85	8.28	23.35	28.00	18.22	+ 1.64	+ 1.03	24.30	36.93	42.74	33.18
29	17.85	17.27	2.25	20.15	17.18	—22.89	—12.56	6.41	22.64	37.05	43.10	32.41
30	+13.96	8.08	— 6.92	14.10	7.88	....	0.87	+ 1.33	24.59	+45.97	38.42	31.41
31	....	— 9.02	....	—21.70	—10.38	....	— 4.08	....	+24.76	....	+38.10	+33.91

TABLE II.

Hourly means of temperature observed at Polaris Bay.

Hour.	September, 1871.	October, 1871.	November, 1871.	December, 1871.	January, 1872.	February, 1872.	March, 1872.	April, 1872.	May, 1872.	June, 1872.	July, 1872.	August, 1872.
	°	°	°	°	°	°	°	°	°	°	°	°
0^h	+ 23.23	−1.39	−8.63	−14.86	−[23.65]	−22.23	−24.49	−11.24	+[13.55]	+35.42	+39.04	+32.99
1	23.23	1.39	8.63	15.26	22.78	22.23*	24.08	11.92	13.78	[35.17]	[38.77]	[32.70]
2	23.23	1.39	8.63	15.12	22.77	22.34	23.87	[12.21]	14.16	35.31	38.93	33.17
3	23.23	1.39	8.63	15.71	22.26	22.34	24.38	11.59	14.68	35.83	39.16	33.83
4	23.25	1.38	8.62	15.54	22.00	23.04	24.38	10.64	15.26	36.19	38.98	33.72
5	23.25	1.29	[9.56]	14.77*	21.99	23.27	24.59	9.30	15.97	36.25	39.12	33.68
6	23.25	1.38	8.63	15.89	22.29	23.38	[24.87]	8.33	16.55	36.36	39.45	33.91
7	23.71*	1.38	8.63	15.51	22.31	23.37	24.02	7.70	17.19	36.51	40.02	35.05
8	23.24	1.38	8.63	15.69	22.11	23.37	23.59	6.93	17.93	36.89	40.29	36.29
9	23.24	1.38	8.63	15.47	21.96	23.59	23.21	5.37	18.43	37.18	40.03	36.77
10	23.24	1.38	8.63	15.69	22.24	23.26	22.88	4.93	18.69	37.41	40.04	39.23
11	23.24	1.38	8.63	[16.44]	22.46	23.38	22.33	4.51	18.62	37.48*	40.48*	39.09
Noon.	23.24	1.38	8.63	16.26	22.29	24.03	22.23*	4.27*	18.54	37.42	40.33	39.46
1^h	23.24	1.38	8.62	16.25	21.71	23.71	22.30	4.66	18.80*	37.39	40.23	39.78*
2	23.24	1.15*	8.73	16.14	21.64*	23.47	22.42	5.11	18.69	37.10	40.26	39.43
3	23.24	1.38	8.62	15.97	21.77	23.41	22.45	5.22	18.44	36.75	40.02	38.71
4	23.51	1.38	8.63	16.03	22.36	23.62	22.65	5.59	18.42	36.66	39.85	37.72
5	23.24	1.38	8.63	16.22	21.97	23.91	22.65	6.04	17.92	36.49	39.68	37.63
6	23.23	1.38	8.63	16.26	22.17	[24.08]	23.24	6.83	17.35	36.28	39.68	37.17
7	23.23	1.38	8.63	16.05	22.30	24.02	23.48	7.63	17.03	35.88	39.15	35.61
8	23.23	1.39	8.63	15.96	22.46	23.83	23.89	8.19	16.66	35.82	39.21	34.94
9	23.23	1.39	8.63	15.87	21.82	23.28	23.44	8.30	15.98	36.28	38.95	34.33
10	23.23	1.39	8.63	16.08	21.70	22.83	23.88	8.67	15.75	36.27	39.06	33.62
11	+[22.79]	−1.38	−8.08*	−15.66	− 22.01	−22.60	−23.61	−10.82	+ 15.67	+36.50	39.20	+33.06
Means.	+ 23.25	−1.37	−8.65	−15.79	− 22.23	−23.28	−23.47	− 7.77	+ 16.81	+36.44	+39.58	+35.91

NOTE.—The maximum temperatures of each month are indicated by asterisks and the minima are in brackets.

ANNUAL FLUCTUATION OF TEMPERATURE AT POLARIS BAY.

In order to discuss the preceding observations analytically, both the daily and monthly means are required. As has been mentioned before, there are only eight-hourly observations on record for the months of September and October; but three daily observations, if separated by proper intervals of time, will give the mean temperature of the day, provided the respective weights of the observations under consideration can be estimated. The latter can be done, as we know the law of the daily fluctuation of temperature at quite a number of stations situated in the arctic regions.

Denoting the three observations under consideration in their succession by t_1, t_2, and t_3; denoting further three other observations, taken during the same month, day, and hours, but at another station, by τ_1, τ_2, and τ_3, and the mean temperature of the day at the second station by μ; if w_1, w_2, w_3 are the weights of the observations at the first station, we may say with some reliability that—

$$w_1 : w_2 : w_3 = \frac{1}{(\mu-\tau_1)} : \frac{1}{(\mu-\tau_2)} : \frac{1}{(\mu-\tau_3)}$$

Having thus obtained the weights of three observations at the first station, the mean can be calculated according to the well-known formula—

$$m = \frac{w_1\, t_1 + w_2\, t_2 + w_3\, t_3}{w_1 + w_2 + w_3}$$

By this somewhat laborious, but otherwise simple method, the daily means have been computed, from which subsequently the monthly and annual means have been derived.

The period under consideration comprises one year of 366 days, which was divided into twelve equal parts of 30.5 days each, and the means of these equi-intervals were formed in order to use them as monthly means in Bessel's circular functions. The following table will show how little they vary from the means of the actual months:

Comparison of the means of the actual months and the equi-intervals.

Months.	Mean temperature of actual months.	Mean temperature of equi-intervals.	Months.	Mean temperature of actual months.	Mean temperature of equi-intervals.
	°	°		°	°
January	—22. 23	—22. 42	July	+39. 58	+39. 28
February.......	—23. 28	—23. 52	August..........	+35. 91	+35. 88
March	—23. 47	—22. 65	September......	+23. 25	+23. 07
April...........	— 7. 77	— 7. 66	October	— 1. 37	— 1. 59
May............	+16. 81	+17. 59	November	— 8. 65	— 8. 76
June	+36. 44	+36. 94	December	—15. 79	—15. 79
Mean temperature of the year = + 4°.196 F.					

In Bessel's circular functions—

$$T = A + B_1 \sin (x + C_1) + B_2 \sin (2x + C_2) + B_3 \sin (3x + C_3) + \ldots\ldots$$

the co-efficient B_1, B_2, &c., and the angles C_1, C_2, &c., being obtained from—

$$B_n = \sqrt{a^2_n + b^2_n} \text{ and } \tan C_n = \frac{a_n}{b_n}.$$

where a and b are functions of the observed means of the phases constituting the period. In the present case the following values were obtained:

n	a_n	b_n	B_n	C_n
				° ′ ″
1	—25. 940	—20. 016	+32. 765	232 20 40
2	+ 5. 336	+ 4. 282	+ 6. 842	51 15 10
3	+ 0. 100	+ 1. 723	+ 1. 730	30 04 40
4	+ 1. 0196	— 1. 9586	+ 2. 208	152 30 00

By inserting the values given in the above table in Bessel's formula, we obtain the analytical expression for the annual fluctuation of temperature at Polaris Bay as follows:

$$T = +4.196 + 32.765 \sin (x + 232^\circ\ 20'\ 40'') + 6.842 \sin (2x + 51^\circ\ 15'\ 10'')$$
$$+ 1.730 \sin (3x + 30^\circ\ 4'\ 40'') + 2.208 \sin (4x + 152^\circ\ 30'\ 00'')$$

The angle x increases at the rate of 30° per month (equi-interval), starting from the middle of December, to which the period is referred. Taking, therefore, successively $x = 30^\circ$, $x = 60^\circ$, &c., we obtain the mean temperature of January, February, &c., respectively. In this manner the following results have been obtained:

Months, (equi-intervals).	Temperature observed.	Temperature computed.	Difference, O. — C.
	°	°	°
January	—22. 42	—22. 61	+0. 19
February.......	—23. 52	—24. 75	+1. 23
March	—22. 65	—21. 63	—1. 02
April...........	— 7. 66	— 7. 88	+0. 22
May	+17. 59	+18. 29	—0. 70
June...........	+36. 94	+35. 63	+1. 31
July	+39. 28	+39. 34	—0. 06
August.........	+35. 88	+37. 60	—1. 72
September......	+23. 07	+21. 39	+1. 68
October	— 1. 59	— 0. 88	—0. 71
November	— 8. 76	— 9. 61	+0. 85
December	—15. 79	—14. 52	—1. 27
Spring	— 4. 24	— 3. 74	—0. 50
Summer	+37. 37	+37. 52	—0. 15
Autumn.........	+ 4. 24	+ 3. 64	+0. 60
Winter..........	—20. 58	—20. 63	+0. 05
Year	+ 4. 196	+ 4. 196	±0. 00

The roots of $\frac{dT}{dx}=0$ give the maximum and minimum temperatures during the year, but the direct solution of this differential equation being too laborious, as no great accuracy is required, the approximate solution by means of the *regula falsi* has been adopted.

Stopping with our approximation at—

$$\frac{dT}{dx}=+0.00025$$

which corresponds to $x=215° 4'$, we obtain the maximum of—

+39°.5 on July 21st.

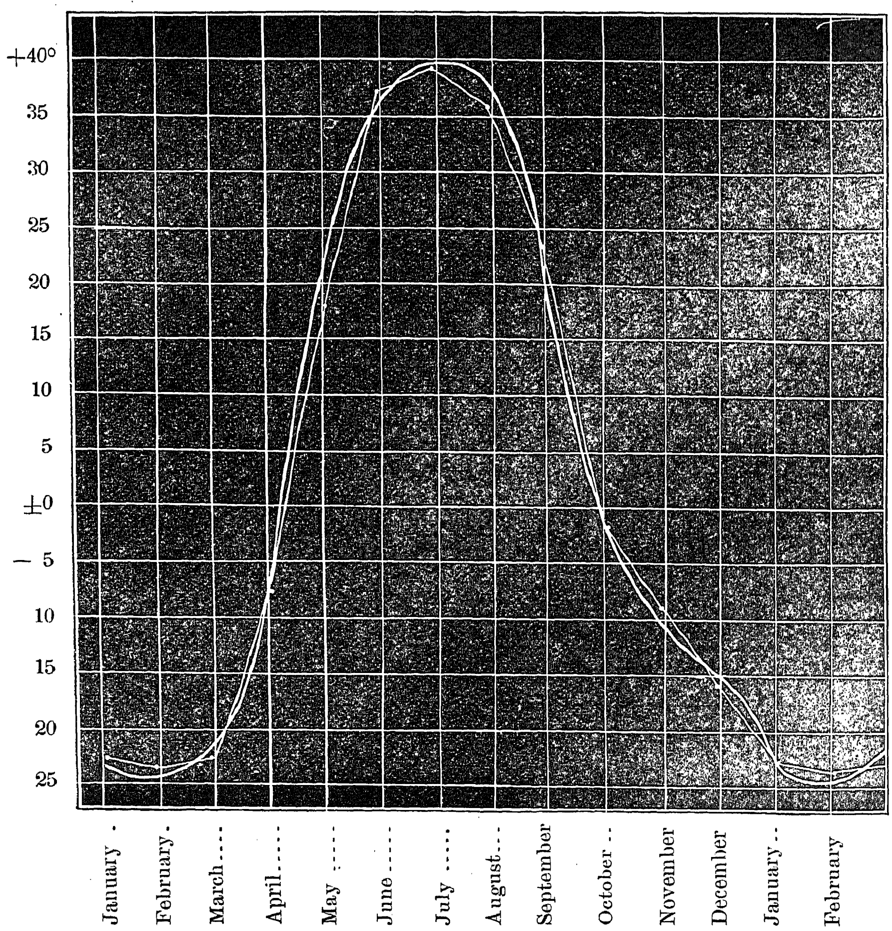
The lowest temperature occurred in the middle of February, though there was another minimum of—

−24°.7 on February 3d.

By inserting T=+4.196 in the analytical expression for the annual fluctuation, the roots of the equation will give the phases, when the mean annual temperature occurs. These roots were found by approximation, and we see the mean temperatures to occur on—

May 1st and October 8th.

The following diagram exhibits the annual fluctuation of temperature at Polaris Bay:



The strong curve represents the computed values, the other one the temperatures actually observed. It will be seen that the greatest difference between the computed and observed values occurs in August, namely, −1°.72. Then follow September with a difference of +1°.68, June with +1°.38, December with −1°.27, February with +1°.23, and March with −1°.02. None of the other differences exceed one degree. In the present case the greatest difference occurred in summer, while at the other neighboring stations it was found during winter or spring, when sudden changes

of temperature are more frequent. An examination of the hourly observations shows that during November the temperature rose, sometimes within one or two days, from —25° to +5°. The same was found during the two following months, and especially in February, when changes of 40°, and even more, were not at all uncommon.

The following table gives the observed annual fluctuation of the atmospheric temperature for different stations in the arctic regions, four of which are situated on the northwest coast of Greenland, one in the Parry Archipelago, and another in East Greenland:

Periods.	Polaris Bay, 1871–72. ϕ 81° 36'.4 N. λ 62 15 W.	Van Rensselaer Harbor, 1853–54–55. ϕ 78° 37' N. λ 70 53 W.	Polaris House, 1872–73. ϕ 78° 23'.4 N. λ 72 51 W.	Port Foulke, 1860–61. ϕ 78° 18' N. λ 73 00 W.	Port Kennedy, 1858–59. ϕ 72° 01' N. λ 94 14 W.	Sabine Island, 1869–70. ϕ 74° 32' N. λ 18 49 W.
	°	°	°	°	°	°
January	—22.23	—28.22	—29.34	—25.97	—34.40	—11.47
February	—23.28	—26.43	—25.37	—24.88	—37.08	—10.86
March	—23.47	—34.88	—25.11	—22.32	—18.22	— 9.98
April	— 7.77	—10.35	— 4.74	—11.01	— 2.92	+ 2.28
May	+16.81	+13.45	+19.84	+23.77	+15.04	+22.23
June	+36.44	+30.12	....	+33.85	+35.11	+36.07
July	+39.58	+38.19	....	+40.54	+40.12	+38.84
August	+35.91	+31.82	....	[+36.07]	+36.95	+33.21
September	+23.25	+13.45	....	+22.60	+25.43	+24.21
October	— 1.37	— 3.58	....	+ 7.60	+ 7.44	+ 7.11
November	— 8.65	—21.95	— 1.83	+ 2.84	—11.60	— 0.98
December	—15.79	—31.12	— 9.15	—12.81	—33.63	+ 1.15
Spring	— 4.81	—10.59	— 3.34	— 3.19	— 2.04	+ 4.84
Summer	+37.31	+33.38	....	[+36.82]	+37.40	+36.04
Autumn	+ 4.41	— 4.03	....	+11.01	+ 7.09	+10.10
Winter	—20.43	—28.59	—21.29	—21.22	—35.04	— 7.06
Year	+ 4.13	— 2.46	....	[+ 5.86]	+ 1.85	+10.98

CHANGE OF THE MEAN TEMPERATURE WITH THE LATITUDE.

It will be seen that every month at Polaris Bay was warmer than at Rensselaer Harbor, the greatest difference between the two localities being exhibited in December, during which month the mean temperature was 15°.13 higher at Polaris Bay. The next greatest difference of 13°.30 occurs in November; then follows March with 11°.41. If we except September, which, according to the observations at our first winter-quarters, was 9°.80 warmer there than at Rensselaer Harbor, none of the other differences exceed 6°.5. The greatest difference between the mean temperatures of the two localities occurs in autumn and winter, the temperature at Polaris Bay being 8°.43 above that at Rensselaer Harbor in the former season and 8°.16 in the latter. The differences between the temperature at the two stations in spring and summer was 5°.81 and 3°.93, respectively; and the mean annual temperature is 6°.59 higher at Polaris Bay than at Rensselaer Harbor.

Our observations taken at Polaris House, which are given in detail hereafter, are of special interest (although they do not extend over a whole year), as this station is situated between Port Foulke and Rensselaer Harbor. The mean temperature of January was found lower at our second winter-quarters than that of the same month at the two stations last mentioned, although it was by 5°.6 higher than during the corresponding month at Port Kennedy. Both February and March were colder than at Port Foulke, but warmer than at Rensselaer Harbor, while the mean temperature of April was higher than that of the two other localities, which was due, most likely, to a body of open water to the south and west of the station under consideration. May again was warmer than at Rensselaer Harbor and colder than at Port Foulke. The same was the case in November and December; and a comparison of spring and winter demonstrates the same fact again. Consequently, there is a decided decrease of temperature with increasing latitude between Port Foulke and Polaris House and between the latter station and Rensselaer

Harbor. An examination of the mean temperatures of the station last mentioned and of those of Polaris Bay demonstrates the contrary, viz, an increase as shown in the following table, giving the increase of the mean temperature for 1° of latitude between latitudes 78°.6 and 81°.6 north.

Increase of mean temperature for one degree of latitude between latitudes 78°.6 *and* 81°.6 *N.*

	°		°		°		°
January	2.0	May	1.1	September	3.3	Spring	1.9
February	1.5	June	2.1	October	0.7	Summer	1.3
March	3.8	July	0.4	November	4.4	Autumn	0.1
April	0.9	August	1.6	December	5.1	Winter	2.7
Year = 2°.2.							

By omitting Van Rensselaer Harbor, and calculating the difference of the mean temperature for each degree of latitude for the latitude between Port Foulke and Polaris Bay, we get the following values, + indicating an increase, — a decrease, with increasing latitude:

Difference of temperature for one degree of latitude between latitudes 78.°3 *and* 81°.6 *N.*

	°		°		°		°
January	+1.1	May	—2.1	September	+0.2	Spring	—0.5
February	+0.5	June	+0.8	October	—2.7	Summer	+0.1
March	—0.3	July	—0.3	November	—3.6	Autumn	—2.0
April	+1.0	August	—0.1	December	—0.9	Winter	+0.2
Year = — 0°.5.							

It will be seen that there is an increase of the mean temperature with the increasing latitude in January, February, April, June, and September, reaching its maximum during the month first mentioned; all the other months show a decrease, which is greatest in November.

The following table gives the difference of the mean temperatures of the months and of the seasons, and also of the annual mean, between Port Foulke and Rensselaer Harbor:

Difference of mean temperature between Port Foulke and Rensselaer Harbor; difference of latitude, = 0°.3.

	°		°		°		°
January	2.25	May	10.32	September	9.15	Spring	7.40
February	1.55	June	3.73	October	11.18	Summer	3.44
March	12.56	July	2.35	November	24.79	Autumn	15.04
April	0.66	August	4.25	December	18.31	Winter	7.37
Year = 8°.32.							

If we make use of the observations taken by Commander Sounders, of H. B. M. S. North Star, at Wolstenholm Sound in 1849 and 1850, in calculating the decrease of the temperature with the increasing latitude, we get the following table, Port Foulke being used as the northern station:

Change of mean temperature for one degree of latitude between latitudes 76°.5 *and* 78°.3 *N.*

	°		°		°		°
January	0.5	May	1.1	September	2.5	Spring	2.6
February	+5.0	June	3.2	October	2.11	Summer	0.6
March	2.7	July	0.0	November	+11.9	Autumn	+2.4
April	4.0	August	+1.3	December	+ 8.0	Winter	+4.2
Year = + 0°.85.							

There is a decided decrease manifested except in February, August, November, and December, and accordingly in autumn and winter the temperature at Port Foulke is found to be the highest. The same takes place in regard to the annual temperature, which is by 0°.85 higher at the latter station. An examination of Hayes's narrative shows that there was considerable open water near his winter-quarters during November, December, and even during February, which circumstance will readily explain the higher mean temperatures during these months. The mean temperature of August at Port Foulke is not strictly comparable with that of Wolstenholm Sound, as it had to be interpolated, although we doubt that the difference between the value actually observed and the one in question would exceed 1°.3.

The observations taken at Upernivik, combined with those of Wolstenholm Sound, give the following result:

Change of mean temperature for one degree of latitude between latitudes 72°.8 and 76°.5 N.

	°		°		°		°
January	4.9	May	+0.2	September	1.3	Spring	2.0
February	6.0	June	+0.7	October	2.9	Summer	0.1
March	3.5	July	+0.2	November	8.0	Autumn	6.0
April	2.8	August	1.1	December	7.1	Winter	4.1
Year = 3°.0.							

It will be seen that there is a slight increase of temperature in May, June, and July, all the other months being colder at Wolstenholm Sound. By omitting the station last mentioned and calculating the decrease between Upernivik and Port Foulke the result turns out more favorably, as may be seen from the following table, in which there is but one slight irregularity in July, this month being by 0°.3 warmer at the northern station:

Decrease of mean temperature for one degree of latitude between latitudes 72°.8 and 78°.3 N.

	°		°		°		°
January	3.4	May	0.2	September	1.7	Spring	2.2
February	2.4	June	0.6	October	2.6	Summer	0.2
March	3.3	July	+0.3	November	1.5	Autumn	1.9
April	3.2	August	0.3	December	2.1	Winter	2.3
Year = 1°.8.							

From the above tables it appears that there is a decided decrease of temperature with increasing latitude, between latitudes 72°.8 and 78°.6, from whence to latitude 81°.6 the contrary takes place; consequently, we might say that the climate of West Greenland is of an insular character on the southern part of the coast, assuming a continental character near and in Smith Sound, and growing milder again in the latitude of Polaris Bay. The difference in temperature between the extreme seasons, viz., summer and winter, increases from latitude 60° to latitude 78°.6, from whence to latitude 81°.4 it decreases again, as exhibited in the following table. Beyond doubt the difference of Wolstenholm Sound is anomalous, resulting from local influences:

Stations.	ϕ	Δ
	°	°
Lichtenau	60.22	23.2
Lichtenfels	63.00	27.9
Jacobshaven	69.12	46.1
Omenak	70.41	45.8
Upernivik	72.47	47.7
Wolstenholm Sound	76.33	66.7
Port Foulke	78.18	58.0
Rensselaer Harbor	78.37	62.0
Polaris Bay	81.36	57.7

Koldewey, in discussing the decrease of temperature with the latitude in East and West Greenland, between latitudes 61° and 74° north, finds the ratio of decrease to be nearly the same at both coasts, and concludes that the monthly and annual isothermal lines run nearly parallel with each other and parallel with the parallels of latitude across the continent of Greenland.* For the sake of completeness we shall give here the table as calculated by him in degrees of Réaumur, reduced to Fahrenheit's scale:

Decrease of mean temperature for one degree of latitude between latitudes 61° and 74° N.

	November.	December.	January.	February.	March.	April.	May.
	°	°	°	°	°	°	°
East Greenland.........	0.76	1.35	3.37	2.92	2.72	2.25	1.12
West Greenland	0.45	3.15	2.92	3.15	2.70	2.25	1.12

According to the above table there cannot be any doubt as to the ratio of decrease being almost the same at both coasts (if we except December), but this fact does not include a parallelism of the isothermal lines with the parallels of latitude. At first sight it seems to be rather strange to find the mean temperatures of stations situated under the same parallel, on the eastern and western coasts of Greenland, almost equal, as the former is under the influence of a cold marine current, so much loaded with heavy drift and pack ice that it is always more or less difficult to reach this coast, while the other, to a certain latitude and at certain seasons, is washed by a warm current. Under such circumstances we might reasonably expect the temperature to be higher at a station situated at the western than that of another one situated at the eastern coast under the same latitude; but this, however, is not the case. Our present knowledge of the interior of Greenland, between the latitudes mentioned above, shows that the so-called inland ice stretches nearer to the west coast than to the one opposite. Therefore, it is easy to perceive that during the warm season the vicinity of the inland ice compensates for the action of the warm current along the western coast, while the more rocky surface of Eastern Greenland, heated by insolation, modifies that of the ice-stream. Consequently, the isothermal lines cannot run parallel with the parallels of latitude, but will represent curves, the convexity of which is turned toward the north. Most likely the apex of these curves between latitudes 69° and 74° north will be situated between longitudes 30° and 40° west, while farther south it will attain a greater west longitude.

DIURNAL FLUCTUATION OF THE TEMPERATURE AT POLARIS BAY.

The following table, exhibiting the mean maximum and minimum temperatures of each month, with their range and the time of their respective occurrence, is derived directly from Table II, given after the hourly record:

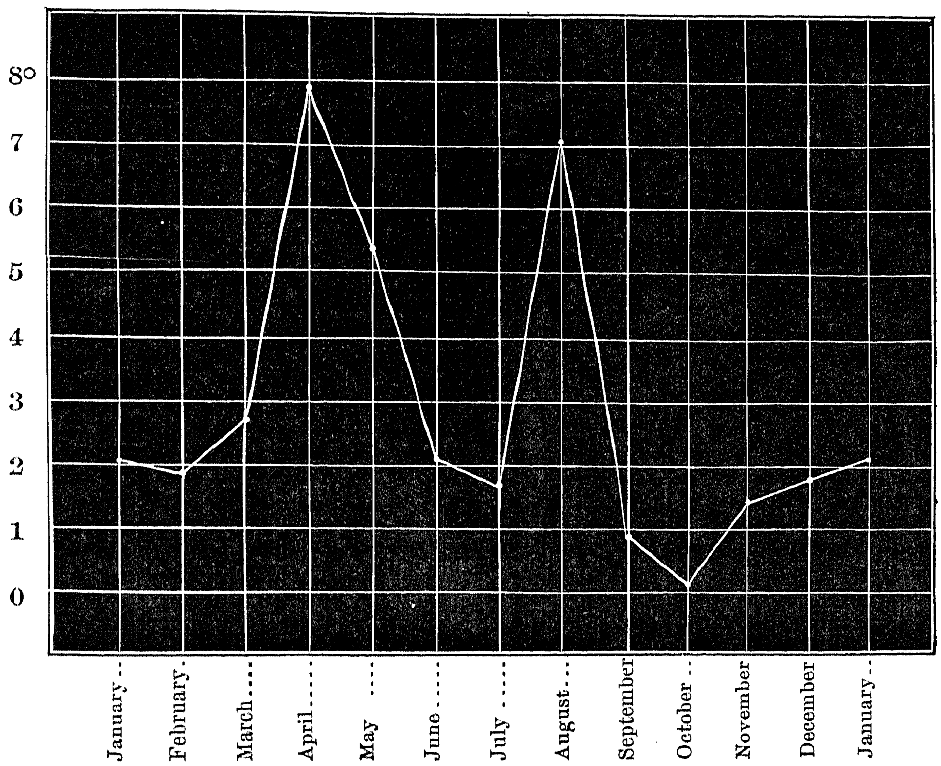
Daily extremes, range, and hours of maxima and minima for each month of the year.

Months.	Maximum.	Minimum.	Range.	Time of— Max.	Time of— Min.
	°	°	°	h.	h.
September, 1871........	+23.71	+22.79	0.92	7 a.m......	11 p.m......
October, 1871...........	— 1.15	— 1.39	0.24	2 p.m......	....
November, 1871........	— 8.08	— 9.56	1.48	11 p.m......	5 a.m......
December, 1871.........	—14.77	—16.44	1.67	5 a.m......	11 a.m......
January, 1872...........	—21.64	—23.65	2.01	2 p.m......	0 a.m......
February, 1872..........	—22.23	—24.08	1.85	0 and 1 a.m.	6 p.m......
March, 1872.............	—22.23	—24.87	2.64	Noon	6 a.m......
April, 1872..............	— 4.27	—12.21	7.94	Noon	2 a.m......
May, 1872...............	+18.80	+13.55	5.25	1 p.m......	0 a.m......
June, 1872...............	+37.48	+35.17	2.31	1 p.m......	1 a.m......
July, 1872...............	+40.48	+38.77	1.71	11 a.m......	1 a.m......
August, 1872............	+39.78	+32.70	7 08	1 p.m......	1 a.m......

* Zweite deutsche Nordpolarfahrt, p. 554.

It will be seen that the hour of occurrence of the minimum in October is omitted in the preceding table, being due to the circumstance that it is not well established, because the observations for this month are incomplete.

The following diagram exhibits the annual march of the diurnal amplitude for each month:



It appears from the above that the maximum value of the daily range is reached in April, amounting to 7°.94. An examination of the amount of cloudiness shows this month to be the clearest one on record, the percentage of perfectly clear hours being 20.3. Consequently, terrestrial radiation takes place more freely, and as the sun is not yet circumpolar during the earlier part of this month, changes of temperature are more frequent; besides, the temperature of the dew-point is nearly 8° below that of the air. From April the daily range decreases till July, when it begins to rise again, reaching a second maximum in August; the minimum occurring in October. Another small rise takes place from this month till January. We tried to obtain the dependency of the daily range upon the hygrometrical conditions of the atmosphere, but did not get any satisfactory result.

The following table gives the daily range of temperature for six stations in the arctic regions. The maxima are denoted by asterisks while the minima are placed between brackets:

Months.	Polaris Bay.	Rensselaer Harbor.	Polaris House.	Port Foulke.	Port Kennedy.	Sabine Island.
	°	°	°	°	°	°
January	2.01	1.55	1.11	1.43	1.41	[0.95]
February	1.85	3.07	2.49	4.24	1.49	1.94
March	2.64	5.66	4.24	8.87*	9.55	6.16
April	7.94*	9.09*	7.39*	5.42	7.42	10.06*
May	5.35	7.34	3.70	6.44	7.94	9.74
June	2.31	5.10	....	4.99	9.60*	7.07
July	1.71	3.37	....	4.26	6.97	6.80
August	7.08	5.30	....	3.03	2.63	7.94
September	0.92	5.55	....	1.83	2.94	5.36
October	[0.24]	1.67	....	2.24	2.18	2.34
November	1.48	[1.00]	1.40	1.55	2.17	1.28
December	1.67	1.65	1.23	[0.18]	[0.84]	0.97

A glance at the above table shows that the maxima of Polaris Bay, Rensselaer Harbor, Polaris House, and Sabine Island correspond in time, and those of our own two stations also very nearly in amount. At Sabine Island the maximum is greater than at any of the other localities. The minimum of Polaris Bay occurs in October; that of Rensselaer Harbor a month later. Both at Port Foulke and Port Kennedy the range is smallest in December, while at Sabine Island the minimum occurs in January. The daily range never disappears entirely in any of the above-named stations, although in winter, when the sun is below the horizon, the thermal wave becomes very insignificant. During this time we might reasonably expect a decrease of the minimum with increasing latitude, but this does not seem actually to be the case, at least if we judge from the observations above given, which, however, do not extend over a period long enough to admit of deducing a general law.

The analytical discussion of the diurnal fluctuation of the temperature at Polaris Bay is based on the table headed "Daily Means," given after the record of the hourly observations.

The annual means of every hour of the day were taken and used as phases of the daily period. The elements of the analytical expression were found as follows:

n	a_n	b_n	B_n	C_n
				° ′ ″
1	—0.89338	—0.22293	0.92078	255 59 30
2	—0.00183	—0.10781	0.1078	180 58 24
3	+0.03907	+0.007875	0.03986	78 36 14
4	—0.0625	—0.049073	0.07946	231 51 37

Consequently, our analytical expression becomes—

$$T=4.196+0.92078 \sin (x+255^\circ 59' 30'')+0.1078 \sin (2x+180^\circ 58' 24'')$$
$$+0.03986 \sin (3x+78^\circ 36' 14'')+0.07946 \sin (4x+231^\circ 51' 37'')$$

The period being referred to noon or midnight at its beginning, the angle x increasing at the rate of 15° per hour. Taking, therefore, successively $x=0^\circ$, $x=15^\circ$, $x=30^\circ$, we obtain the temperatures of 0^h a. m., 1^h a. m., 2^h a. m., &c.

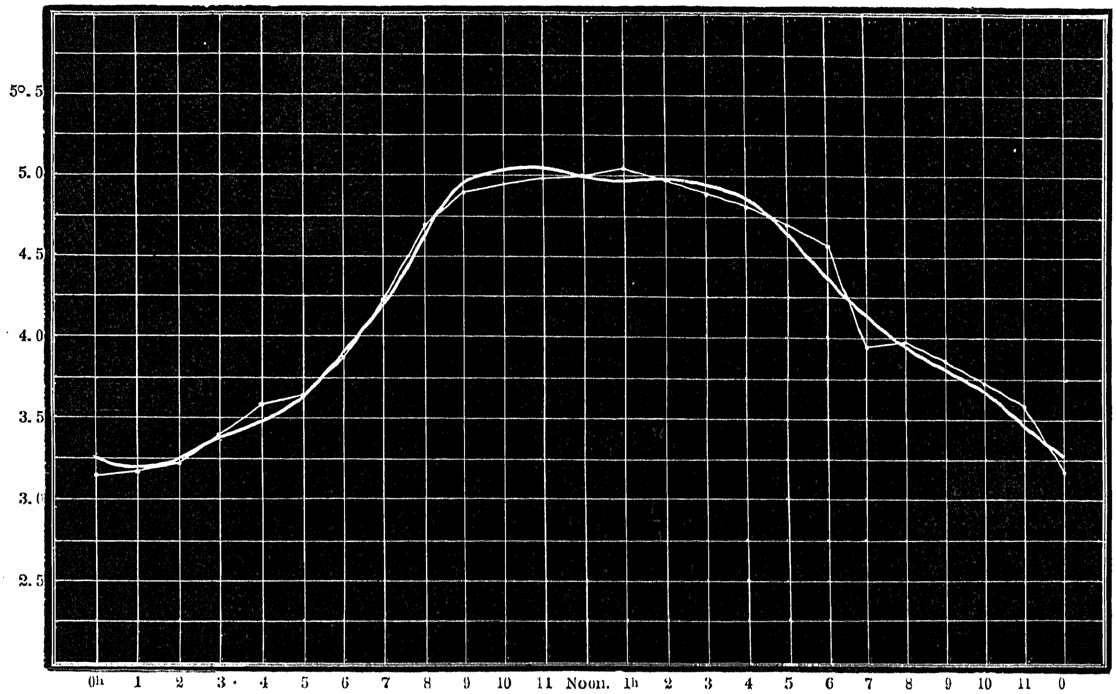
The following table exhibits the—

Diurnal fluctuation of the temperature at Polaris Bay.

Time.	Temperature observed.	Temperature computed.	Difference, O. — C.	Tropical moments.
	°	°	°	
0^h	+3.15	+3.28	—0.13	
1	3.17	3.18	—0.01	Minimum of 3°.196 at 0^h 56^m.
2	3.21	3.21	±0.00	
3	3.37	3.40	—0.03	
4	3.58	3.50	+0.08	
5	3.62	3.68	—0.06	
6	3.82	3.90	—0.08	
7	4.21	4.21	±0.00	
8	4.70	4.57	+0.13	
9	4.87	4.97	—0.10	
10	4.97	5.03	0.06	
11	4.99	5.04	—0.05	Maximum of 5°.053 at 11^h 10^m.
Noon.	4.99	4.99	±0.00	
1^h	5.07	4.95	+0.12	
2	4.98	4.97	+0.01	Maximum of 5°.012 at 2^h 28^m.
3	4.86	4.96	—0.10	
4	4.79	4.85	—0.06	
5	4.69	4.63	+0.06	
6	4.56	4.37	+0.19	
7	3.95	4.14	—0.19	
8	3.99	3.99	±0.00	
9	3.84	3.77	+0.07	
10	3.73	3.69	0.04	
11	+3.59	+3.48	+0.11	
Means.	+4.196	+4.196	±0.00	

The above values, thrown into a curve, result in the following diagram:

Graphical representation of the diurnal fluctuation of temperature at Polaris Bay.



It will be seen that the theoretical curve is somewhat abnormal, passing through the absolute maximum of 5°.053 at 11^h 10^m a. m.; the maximum, as derived from the observed values, occurring at 1^h p. m., which seems more natural. We shall see hereafter that this anomaly is produced by the somewhat abnormal march of the temperature during June and July, the maximum temperature of the day being reached as early as 11^h a. m. in both of these months. In general, the computed values agree very well with those observed, the greatest difference between the two not exceeding 0°.19.

At Van Rensselaer Harbor the maximum occurs at 2^h p. m. and the minimum at 1^h a. m. At Port Foulke the hours are 2^h 30^m p. m. and 2^h 30^m a. m., respectively; and at Port Kennedy the maximum temperature is reached between noon and 1^h p. m., while the minimum occurs between 2^h and 3^h a. m.

We shall now consider the diurnal fluctuation during the different seasons. The time being very limited, the respective curves were only computed for alternate hours.*

Spring.—The analytical elements and expression for this season were found as follows:

n	a_n	b_n	B_n	C_n
				° ′ ″
1	+1.501	−1.688	+2.260	221 38 39
2	+0.259	−0.169	+0.309	123 7 30
3	+0.082	−0.080	+0.115	134 17 34

$$T=-4.81+2.260 \sin (x+221^\circ 38' 39'')+0.309 \sin (2x+123^\circ 7' 30'')$$
$$+0.115 \sin (3x+134^\circ 17' 34'')$$
$$x=30^\circ, 60^\circ, \ldots\ldots$$

Both the observed and computed maxima occur at noon, the computed minimum at 2^h a. m. and the observed minimum an hour earlier. The curve shows a very regular course, and the greatest difference between any observed and computed mean value does not exceed 0°.31. The mean range, as derived from the computed values, is 4°.56; the range, as observed, is by 0°.26 greater.

* Compare the thermal curves for the seasons, as given hereafter in the discussion of the dew-point in the Hygrometrical Observations.

Summer.—The form of the curve for summer is very similar to the one for spring. The maximum is reached at noon, while the minimum occurs at midnight, the mean range being 3°.36. The observed values show a slight irregularity, as the temperature is a little lower at 1^h and at 2^h a. m. than at midnight, the decided rise beginning only at 3^h a. m., lasting till 1^h p. m., when the maximum is reached, this occurring an hour later than in the computed curve. The mean range, as derived from the observed values, is 3°.36, differing but slightly from the one given above. The analytical elements and expression were found as follows:

n	a_n	b_n	B_n	C_n
				° ′ ″
1	−1.175	−1.131	+1.630	226 5 35
2	+0.023	+0.062	+0.066	19 56 46
3	−0.113	−0.105	+0.154	227 6 6

$$T=+37.31+1.630 \sin (x+226^\circ\ 5'\ 35'')+0.066 \sin (2\,x+19^\circ\ 56'\ 46'')$$
$$+0.154 \sin (3\,x+227^\circ\ 6'\ 6'')$$
$$x=30^\circ,\ 60^\circ, \ldots\ldots$$

Autumn.—As has been stated, the observations for October are rather defective, and most likely, owing to this circumstance, the curve for this season is less regular than it would be could we have saved our complete record. The analytical elements and expression for this season were found as follows:

n	a_n	b_n	B_n	C_n
				° ′ ″
1	−0.007	−0.021	+0.022	198 26 6
2	−0.022	+0.004	+0.022	280 18 17
3	+0.007	+0.012	+0.014	30 15 23

$$T=+4.41+0.022 \sin (x+198^\circ\ 26'\ 6'')+0.022 \sin (2\,x+280^\circ\ 18'\ 17'')$$
$$+0.014 \sin (3\,x+30^\circ\ 15'\ 23'')$$
$$x=30^\circ,\ 60^\circ, \ldots\ldots$$

The computed curve exhibits two maxima of +4°.43 and +4°.47, respectively, the former occurring at 4^h a. m., the latter twelve hours later. The absolute maximum is the one reached at 4^h p. m., and evidently it is due to the influence of the sun, which was still above the horizon during September and the first part of October. We shall demonstrate hereafter that the afternoon maximum becomes most apparent if we investigate the diurnal fluctuation of the temperature during the former month. Each of these maxima has a corresponding minimum, one of 4°.40 occurring at 10^h a. m., and the other of 4°.37, which is reached at 10^h p. m. The mean range for this season is 0°.10 only. A comparison of the values actually observed, with the theoretical curve, shows that the first maximum occurs in both instances at the same hour; the same being the case with the second maximum.

Winter.—The sun being below the horizon during the greater portion of this season, we cannot reasonably expect a curve of a definite character; besides, there are very sudden changes of temperature taking place, principally due to the alternate action of the equatorial and polar aerial currents, causing the temperature to be very variable, as stated before in the discussion of the annual fluctuation. The analytical elements and expression for the season under consideration were found as follows:

n	a_n	b_n	B_n	C_n
				° ′ ″
1	+0.054	+0.212	+0.218	14 17 25
2	+0.028	+0.128	+0.131	12 20 21
3	+0.013	+0.082	+0.083	9 0 30

$$T=-20.42+0.218 \sin (x+14^\circ\ 17'\ 25'')+0.131 \sin (2\,x+12^\circ\ 20'\ 21'')$$
$$+0.083 \sin (3\,x+9^\circ\ 0'\ 30'')$$
$$x=30^\circ,\ 60^\circ, \ldots\ldots$$

The computed values agree very well with those observed, the greatest difference between the two amounting to 0°.25 only. The absolute maximum occurs at midnight and the absolute minimum at 6^h p. m., the temperature oscillating in an irregular manner between the two. As may well be imagined, the mean range is very small, not exceeding 0°.78, which is, however, more considerable than during autumn.

The following table contains the observed hourly means of the different seasons; also, the bi-hourly computed values, next to which will be found the differences between the two:

Time.	SPRING.			SUMMER.			AUTUMN.			WINTER.		
	Observed means.	Computed means.	Difference, O.—C.	Observed means.	Computed means.	Difference, O.—C.	Observed means.	Computed means.	Difference, O.—C.	Observed means.	Computed means.	Difference, O.—C.
	°	°	°	°	°	°	°	°	°	°	°	°
0^h	—7.39	—7.08	—0.31	+35.82	+35.75	+0.07	—4.40	+4.40	±0.00	—20.25	—20.09	—0.16
1	7.41	....	....	35.51	....	....	4.40	....	....	20.09	....	....
2	7.31	7.24	—0.07	35.80	35.96	—0.16	4.40	4.40	±0.00	20.08	20.27	+0.19
3	7.10	....	....	36.27	....	....	4.40	....	....	20.10	....	....
4	6.59	6.86	+0.27	36.29	36.32	0.03	4.42	4.43	—0.01	20.19	20.19	±0.00
5	5.97	....	....	36.35	....	....	4.13	....	....	20.01	....	....
6	5.55	5.44	—0.11	36.57	36.81	—0.24	4.41	4.41	±0.00	20.52	20.55	+0.03
7	4.86	....	....	37.19	....	....	4.57	....	....	20.40	....	....
8	4.20	4.17	0.03	37.82	37.67	+0.15	4.41	4.42	—0.01	20.39	20.41	+0.02
9	3.38	....	....	37.99	....	....	4.41	....	....	20.34	....	....
10	3.04	2.99	—0.05	38.89	38.67	+0.22	4.41	4.40	+0.01	20.80	20.60	—0.20
11	2.74	....	....	39.02	....	....	4.41	....	....	20.76	....	....
Noon.	2.65	2.78	+0.13	39.07	39.11	—0.04	4.41	4.41	—0.03	20.36	20.39	+0.03
1^h	2.72	....	....	39.13	....	....	4.41	....	....	20.56	....	....
2	2.95	2.82	—0.13	38.93	38.86	+0.07	4.45	4.44	+0.01	20.62	20.69	+0.07
3	3.08	....	....	38.49	....	....	4.41	....	....	20.38	....	....
4	3.27	3.48	+0.21	38.08	38.33	—0.25	4.50	4.47	+0.03	20.67	20.61	—0.06
5	3.57	....	....	37.93	....	....	4.41	....	....	20.70	....	....
6	4.24	4.02	—0.22	37.81	37.81	±0.00	4.41	4.43	—0.02	20.84	20.87	+0.03
7	4.69	....	....	36.88	....	....	4.41	....	....	20.79	....	....
8	5.14	5.06	0.08	36.99	36.99	±0.00	4.41	4.42	—0.01	20.75	20.50	—0.25
9	5.25	....	....	36.52	....	....	4.40	....	....	20.32	....	....
10	5.60	—5.99	—0.08	36.32	+36.11	+0.21	4.40	+4.37	+0.03	20.20	—20.50	+0.30
11	—6.25	....	....	+36.25	....	....	—4.44	....	....	—20.09	....	....
Means...	—4.81	—4.81	±0.00	+37.31	+37.31	±0.00	—4.41	+4.41	±0.00	—20.42	—20.42	±0.000

Although our observations extend over but a comparatively short period of time, we have, nevertheless, investigated the diurnal fluctuation of temperature for the different months in order to trace a more complete connection between the thermal, barometic, and hygrometric observations. As may well be imagined, the results are rather discordant in some instances.

In order to get a clearer idea of the march of temperature, the computed values were thrown into curves; but we abstain from giving the diagrams here, as they would occupy too much space.

To begin with January, we see that both the observed and computed minima occur at midnight, the curve rising gradually from that hour and reaching its maximum at 5^h a. m. The observed maximum occurs at 2^h p. m., which is more likely than at the hour last mentioned, as it coincides more closely with the time when the sun is nearest to the horizon. We cannot expect, however, to see the hourly variation well pronounced during this month, as the sun only made his re-appearance after the middle of February.

As is the case in January, the curve of February shows no decided character. Both the observed and computed maxima occur at midnight, and the minimum at 6^h p. m., corresponds in regard to time with the observed value.

The curve of March is better marked. The computed maximum occurs at 1^h p. m., while that observed was reached an hour earlier. Both the observed and computed minima are reached at 6^h a. m.

In April both the observed and computed maxima occur at noon, the minimum at 3^h a. m., and its corresponding observed value an hour earlier.

In May the maximum is reached at 1^h p. m., the minimum at midnight, the observed and computed values corresponding with regard to the hour of occurrence.

In June the observed maximum occurs at 11^h a. m., the computed one an hour earlier, while the observed minimum is reached at 1^h a. m., and its corresponding computed value an hour later.

In July both the observed and computed maxima occur at 11^h a. m. The observed minimum is reached at 1^h a. m., while the corresponding computed value occurs three hours earlier.

In August both the observed and computed maxima occur at 1^h p. m., the computed minimum at 11^h p. m., and the one observed an hour after midnight.

Although the computed and observed values for September agree very closely (the difference between the two not exceeding $0^\circ.42$), we still see that the observed maximum occurs at 7 a. m., while the corresponding computed value is found to occur at 4 o'clock in the afternoon, thus showing retardation of three hours if compared with the maximum of the month last mentioned. Both the observed and computed minima are reached at 11 p. m.

Omitting October in this synopsis, we see that in November both the observed and computed maxima occur at 11^h p. m. The computed mimimum is reached at 5^h a. m., and the corresponding observed value two hours later. The computed and observed ranges are $0^\circ.32$ and $1^\circ.48$, respectively.

In December the computed curve passes the maximum at midnight. Both observed and computed minima occur at noon. The observed and computed ranges are $1^\circ.49$ and $1^\circ.63$, respectively.

The analytical elements and expressions made use of are given in the following table, after which will be found the results as derived from the same, together with the observed values:

JANUARY.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	−0.22	−0.27	+0.34	219 10 12
2	−0.23	−0.51	+0.61	204 16 25
3	+0.26	−0.23	+0.35	137 59 35

$$T=-22.23+0.34 \sin (x+219^\circ\ 10'\ 12'') +0.61 \sin (2\,x+204^\circ\ 16'\ 25'') +0.35 \sin (3\,x+137^\circ\ 59'\ 35'')$$
$$x=15^\circ, 30^\circ, \ldots\ldots$$

FEBRUARY.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	+0.29	+0.54	+0.67	28 14 10
2	+0.07	+0.43	+0.45	9 14 35
3	±0.00	+0.28	+0.28	90 0 0

$$T=-23.28+0.67 \sin (x+28^\circ\ 14'\ 10'')+0.45 \sin (2\,x+9^\circ\ 14'\ 35'')+0.28 \sin (3\,x+90^\circ)$$
$$x=15^\circ, 30^\circ, \ldots\ldots$$

MARCH.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	−0.49	−0.86	+0.98	209 40 35
2	+0.06	+0.25	+0.26	13 29 55
3	+0.14	+0.13	+0.14	47 7 25

$$T=-23.47+0.98 \sin (x+209^\circ\ 40'\ 35'') +0.26 \sin (2\,x+13^\circ\ 29'\ 55'') +0.14 \sin (3\,x+47^\circ\ 7'\ 25'')$$
$$x=15^\circ, 30^\circ, \ldots\ldots$$

APRIL.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	−2.19	−2.46	+2.51	221 40 41
2	+0.59	−0.34	+0.62	113 57 19
3	+0.31	−0.11	+0.35	114 4 15

$$T=-7.77+2.51\sin(x+221^\circ\ 40'\ 41'')+0.62\sin(2x+113^\circ\ 57'\ 19'')$$
$$+0.35\sin(3x+114^\circ\ 4'\ 15'')$$
$$x=15^\circ, 30^\circ, \ldots$$

MAY.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	−1.64	−1.46	+1.70	228 19 20
2	+0.12	−0.47	+0.51	165 40 35
3	+0.13	+0.06	+0.15	12 13 35

$$T=+16.81+1.70\sin(x+228^\circ\ 19'\ 20'')+0.51\sin(2x+165^\circ\ 40'\ 35'')$$
$$+0.15\sin(3x+12^\circ\ 13'\ 35'')$$
$$x=15^\circ, 30^\circ, \ldots.$$

JUNE.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	−0.75	−0.39	+0.81	242 31 34
2	+0.18	−0.01	+0.19	93 10 45
3	+0.13	−0.08	+0.14	121 36 20

$$T=+36.44+0.81\sin(x+242^\circ\ 31'\ 34'')+0.19\sin(2x+93^\circ\ 10'\ 45'')$$
$$+0.14\sin(3x+121^\circ\ 36'\ 20'')$$
$$x=15^\circ, 30^\circ, \ldots..$$

JULY.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	−0.57	−0.38	+0.60	236 18 40
2	+0.09	−0.01	+0.10	96 20 19
3	+0.02	+0.11	+0.12	10 8 20

$$T=+39.58+0.60\sin(x+236^\circ\ 18'\ 40'')+0.10\sin(2x+96^\circ\ 20'\ 19'')$$
$$+0.12\sin(3x+10^\circ\ 8'\ 20'')$$
$$x=15^\circ, 30^\circ, \ldots.$$

AUGUST.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	−2.31	−1.53	+2.41	236 28 52
2	+0.23	+0.37	+0.41	31 51 55
3	−0.27	−0.19	+0.32	234 51 55

$$T=+35.91+2.41\sin(x+236^\circ\ 28'\ 52'')+0.41\sin(2x+31^\circ\ 51'\ 55'')$$
$$+0.32\sin(3x+234^\circ\ 51'\ 55'')$$
$$x=15^\circ, 30^\circ, \ldots$$

SEPTEMBER.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	−0.010	+0.003	+0.011	191 18 35
2	+0.005	±0.000	+0.005	90 0 0
3	−0.010	+0.005	+0.011	168 41 25

$$T=+23.25+0.011 \sin (x+191^\circ\ 18'\ 35'') +0.005 \sin (2\,x+90^\circ\ 0'\ 0'') +0.011 \sin (3\,x+168^\circ\ 41'\ 25'')$$
$$x=15^\circ,\ 30^\circ,\ \ldots$$

NOVEMBER.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	+0.0083	+0.0086	+0.0087	44 22 30
2	−0.0083	−0.0144	+0.0190	208 48 40
3	−0.0166	−0.0016	+0.0179	269 21 45

$$T=-8.65+0.0087 \sin (x+44^\circ\ 22'\ 30'') +0.0190 \sin (2\,x+208^\circ\ 48'\ 40'') +0.0179 \sin (3\,x+269^\circ\ 21'\ 45'')$$
$$x=15^\circ,\ 30^\circ,\ \ldots$$

DECEMBER.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	−0.14	−0.25	+0.30	209 14 40
2	−0.02	−0.19	+0.21	186 0 37
3	+0.17	−0.19	+0.24	138 10 35

$$T=-15.79+0.30 \sin (x+209^\circ\ 14'\ 40'') +0.21 \sin (2\,x+186^\circ\ 0'\ 37'') +0.24 \sin (3\,x+138^\circ\ 10'\ 35'')$$
$$x=15^\circ,\ 30^\circ,\ \ldots$$

Time.	NOVEMBER.			DECEMBER.			JANUARY.			FEBRUARY.		
	Obs.	Comp.	Diff., O. − C.	Obs.	Comp.	Diff., O. − C.	Obs.	Comp.	Diff., O. − C.	Obs.	Comp.	Diff., O. − C.
	°	°	°	°	°	°	°	°	°	°	°	°
0^h	−8.63	−8.53	−0.10	−14.86	−14.75	−0.11	−23.65	−23.61	−0.04	−22.23	−22.20	−0.03
1	8.63	8.59	0.04	15.26	15.22	−0.04	22.78	23.01	+0.23	22.23	22.21	0.02
2	8.63	8.62	0.01	15.12	15.27	+0.15	22.77	22.90	0.13	22.34	22.27	0.07
3	8.63	8.62	−0.01	15.71	15.73	+0.02	22.26	22.41	+0.15	22.34	22.32	0.02
4	8.62	8.63	+0.01	15.54	15.52	−0.02	22.00	21.55	−0.45	23.04	22.98	−0.06
5	9.56	8.65	−0.91	14.77	14.89	+0.12	21.99	21.51	−0.48	23.27	23.27	±0.00
6	8.63	8.70	+0.07	15.89	15.09	−0.80	22.29	22.30	+0.01	23.38	23.39	+0.01
7	8.63	8.71	0.08	15.51	16.08	+0.57	22.31	22.31	±0.00	23.37	23.41	0.04
8	8.63	8.70	0.07	15.69	15.76	0.07	22.11	22.28	+0.17	23.37	23.52	0.15
9	8.63	8.66	0.03	15.47	15.62	+0.15	21.96	21.94	−0.02	23.59	23.61	0.02
10	8.63	8.65	0.02	15.69	15.63	−0.06	22.24	22.23	−0.01	23.26	23.61	0.35
11	8.63	8.65	+0.32	16.44	16.35	−0.09	22.46	22.46	±0.00	23.38	23.40	+0.02
Noon.	8.63	8.63	±0.00	16.26	16.38	+0.12	22.29	22.30	+0.01	24.03	23.51	−0.52
1^h	8.62	8.68	+0.06	16.25	16.28	0.03	21.71	22.41	0.70	23.71	23.67	−0.04
2	8.73	8.69	−0.04	16.14	16.23	+0.09	21.64	22.42	+0.78	23.47	23.52	+0.05
3	8.62	8.67	+0.05	15.97	15.86	−0.11	21.77	21.69	−0.08	23.41	23.50	+0.09
4	8.63	8.65	0.02	16.03	16.02	0.01	22.36	21.65	0.71	23.62	23.50	−0.12
5	8.63	8.65	+0.02	16.22	16.13	−0.09	21.97	21.58	−0.39	23.91	23.69	−0.22
6	8.63	8.62	−0.01	16.26	16.33	+0.07	22.17	22.17	±0.00	24.08	24.87	+0.79
7	8.63	8.52	0.11	16.05	16.11	0.06	22.30	22.31	+0.01	24.02	24.21	+0.19
8	8.63	8.50	0.13	15.96	16.07	0.11	22.46	22.34	−0.12	23.83	23.60	−0.23
9	8.63	8.50	0.13	15.87	15.96	+0.09	21.82	22.10	+0.28	23.28	23.11	0.17
10	8.63	8.58	−0.17	16.08	15.95	−0.13	21.70	21.80	+0.10	22.83	22.74	0.09
11	−8.08	−8.39	+0.31	−15.66	−15.71	+0.05	−22.01	−21.74	−0.27	−22.60	−22.47	−0.13
Means...	−8.65	−8.65	±0.00	−15.79	−15.79	±0.00	−22.23	−22.23	±0.00	−23.28	−23.28	±0.00

Time.	MARCH.			APRIL.			MAY.			JUNE.		
	Obs.	Comp.	Diff., O. — C.	Obs.	Comp.	Diff., O. — C.	Obs.	Comp.	Diff., O. — C.	Obs.	Comp.	Diff., O. — C.
	°	°	°	°	°	°	°	°	°	°	°	°
0^h	—21.49	—21.60	+0.11	—11.24	—11.34	+0.10	+13.55	+13.61	—0.06	+35.42	+36.01	—0.59
1	24.08	24.21	0.13	11.92	11.81	—0.11	13.78	13.69	+0.09	35.17	35.81	0.64
2	23.87	23.91	—0.04	12.21	11.99	—0.22	14.16	14.19	—0.03	35.31	35.40	—0.09
3	24.38	23.95	—0.43	11.59	12.03	+0.44	14.68	14.59	+0.09	35.83	35.67	+0.16
4	24.38	23.99	—0.39	10.64	11.04	+0.40	15.26	15.19	0.07	36.19	36.01	+0.18
5	24.59	24.63	+0.04	9.30	8.28	—1.02	15.97	15.88	0.09	36.25	36.34	—0.09
6	24.87	24.96	0.09	8.33	8.00	—0.33	16.55	16.49	+0.06	36.36	36.39	—0.03
7	24.02	24.19	+0.17	7.70	8.00	+0.30	17.19	17.23	—0.04	36.51	36.48	+0.03
8	23.59	23.57	—0.02	6.93	7.05	0.12	17.93	18.15	0.22	36.89	36.67	+0.22
9	23.21	23.44	—0.23	5.37	6.28	0.91	18.43	18.48	—0.05	37.18	37.31	—0.13
10	22.88	22.98	+0.10	4.93	5.13	+0.20	18.69	18.61	+0.08	37.41	37.67	0.26
11	22.33	22.26	—0.07	4.51	4.39	—0.12	18.62	18.67	—0.05	37.48	37.65	0.17
Noon.	22.23	22.16	0.07	4.27	3.99	0.28	18.54	18.57	—0.03	37.12	37.49	—0.37
1^h	22.30	22.15	—0.15	4.66	4.34	0.32	18.80	18.70	+0.10	37.39	37.23	+0.16
2	22.42	22.54	+0.12	5.11	5.02	0.09	18.69	18.71	—0.02	37.10	36.81	0.29
3	22.45	22.55	0.10	5.22	5.11	0.11	18.44	18.52	0.08	36.75	36.54	0.21
4	22.65	22.97	—0.32	5.59	6.09	+0.50	18.42	18.50	—0.08	36.66	36.42	0.24
5	22.65	22.56	—0.09	6.04	6.12	+0.08	17.92	17.85	+0.07	36.49	36.30	0.19
6	23.24	23.09	0.15	6.83	6.71	—0.12	17.35	17.30	+0.05	36.28	36.26	+0.02
7	23.48	23.40	0.08	7.63	7.47	0.16	17.03	17.08	—0.05	35.88	35.91	—0.03
8	23.89	23.87	—0.02	8.19	8.01	0.18	16.66	16.78	0.12	35.82	35.89	—0.07
9	23.44	23.61	+0.17	8.30	8.07	—0.23	15.98	16.06	—0.08	36.28	35.88	+0.40
10	23.88	23.98	—0.10	8.67	8.84	+0.17	15.75	15.74	+0.01	36.27	36.26	0.01
11	—23.61	—23.36	—0.25	—10.82	—10.66	—0.16	+15.67	+15.48	+0.19	+36.50	+36.44	+0.06
Means...	—23.47	—23.47	±0.00	—7.77	—7.77	±0.00	+16.81	+16.81	±0.00	+36.44	+36.44	±0.00

Time.	JULY.			AUGUST.			SEPTEMBER.		
	Obs.	Comp.	Diff., O. — C.	Obs.	Comp.	Diff., O. — C.	Obs.	Comp.	Diff., O. — C.
	°	°	°	°	°	°	°	°	°
0^h	+39.04	+39.24	—0.20	+32.99	+33.00	—0.01	+23.23	+23.23	±0.00
1	38.77	38.97	—0.20	32.70	33.00	—0.30	23.23	23.24	—0.01
2	38.93	38.93	±0.00	33.17	33.17	±0.00	23.23	23.24	0.01
3	39.16	38.94	+0.22	33.83	33.54	+0.29	23.23	23.24	—0.01
4	38.98	38.70	0.28	33.72	33.70	+0.02	23.25	23.24	+0.01
5	39.12	38.91	0.21	33.68	33.74	—0.06	23.25	23.26	—0.01
6	39.45	39.38	0.07	33.91	33.85	+0.06	23.25	23.24	+0.01
7	40.02	39.92	+0.10	35.05	31.98	0.07	23.71	23.29	+0.42
8	40.29	40.30	—0.01	36.29	35.99	+0.30	23.24	23.31	—0.07
9	40.03	40.05	0.02	36.77	36.82	—0.05	23.24	23.23	+0.01
10	40.04	40.17	—0.13	39.23	38.93	+0.30	23.24	23.23	0.01
11	40.48	40.39	+0.09	39.09	39.28	—0.19	23.24	23.23	0.01
Noon.	40.33	40.36	—0.03	39.46	39.61	0.15	23.24	23.23	+0.01
1^h	40.23	40.30	—0.07	39.78	39.88	0.10	23.24	23.24	±0.00
2	40.26	40.20	+0.06	39.43	39.73	0.30	23.24	23.24	±0.00
3	40.02	40.15	—0.13	38.71	39.23	0.52	23.24	23.25	—0.01
4	39.85	40.00	0.15	37.72	38.15	—0.43	23.51	23.61	0.10
5	39.68	39.81	0.13	37.63	37.63	±0.00	23.24	23.32	—0.08
6	39.68	39.69	0.01	37.17	36.92	+0.25	23.23	23.21	+0.02
7	39.45	39.31	0.16	35.61	35.50	0.11	23.23	23.29	—0.06
8	39.21	39.31	0.10	34.94	34.73	0.21	23.23	23.23	±0.00
9	38.95	39.00	—0.05	34.33	34.14	0.19	23.23	23.29	—0.06
10	39.06	38.90	+0.16	33.62	33.41	0.21	23.23	23.26	0.03
11	+39.20	+39.14	+0.06	+33.06	+32.96	+0.10	+22.79	+22.84	—0.05
Means...	+39.58	+39.58	±0.00	+35.91	+35.91	±0.00	+23.25	+23.25	±0.00

THERMIC WIND-ROSE.

In order to find the influence of the wind on the temperature, the hourly readings of the thermometer were compared with the hourly observations on the direction of the wind, and the differences of the monthly mean temperature and the observation under consideration were tabulated according to the different directions of the wind.

The following formula will show how this was done:

$$R=\frac{\Sigma\Delta\,N.}{r}+\frac{\Sigma\Delta\,NE.}{s}+\frac{\Sigma\Delta\,E.}{t}+\frac{\Sigma\Delta\,SE.}{u}+\frac{\Sigma\Delta\,S.}{v}+\frac{\Sigma\Delta\,SW.}{w}+\frac{\Sigma\Delta\,W.}{x}+\frac{\Sigma\Delta\,NW.}{y}+\frac{\Sigma\Delta\,Calm.}{z}$$

In the above expression, R represents the wind-rose and $\Sigma\Delta$ N., $\Sigma\Delta$ NE., ... the sums of all the differences between the monthly mean temperature and the temperature observed during the occurrence of the different winds; r represents the number of observations during which the wind was blowing from a north direction, s from a northeast direction, &c.

The equations of conditions are as follows:

$$1 \qquad \begin{cases} \Delta_0=m-T_0 \\ \Delta_1=m-T_1 \\ \Delta_2=m-T_2 \end{cases}$$

m representing the monthly mean temperature and T the temperature observed at a time 0^h, 1^h, 2^h, ...

$$2 \qquad r+s+t+u+v+w+x+y+z=n,$$

n representing the number of observations recorded during the period of one month.

The following table contains the results thus obtained:

Thermic wind-rose, Polaris Bay.

Periods.	N.	NE.	E.	SE.	S.	SW.	W.	NW.	Calm.	Monthly means.
	°	°	°	°	°	°	°	°	°	°
November	−1.2	−4.3	−2.2	....	....	+4.9	....	....	....	− 8.6
December	−0.9	−1.7	+0.1	....	....	+2.7	....	....	−2.2	−15.8
January	....	−2.1	−0.7	−3.8	....	+9.2	....	....	−2.7	−22.2
February	....	−5.4	+1.9	....	....	+6.2	+0.1	+4.2	−1.9	−23.2
March	....	−3.0	+1.5	+1.8	....	+4.0	....	−2.3	+1.0	−23.5
April	....	+2.0	+1.0	+0.5	....	+2.5	....	+1.4	....	− 7.7
May	....	−2.0	−1.3	+1.5	....	+1.8	....	....	....	+16.8
June	−1.4	−2.5	−0.6	....	+3.3	+4.0	−0.8	−1.0	−1.3	+36.5
July	−1.2	−4.1	+1.0	....	±0.0	+6.3	....	+4.3	....	+39.6
August	+1.5	+5.6	....	+4.1	+2.2	+1.0	....	−3.0	−3.2	+35.9
Ten months	−1.7	−1.8	−0.6	−0.1	+1.5	+4.3	−0.4	+0.4	−1.6	+ 2.8
Computed	−1.6	−1.4	−0.9	−1.3	+1.4	+2.9	+0.7	±0.0	+0.2	....
Difference	−0.1	−0.4	+0.3	+1.2	+0.1	+1.4	−1.1	+0.4	−1.8	± 0.0
Winter	−0.3	−3.1	+0.4	−1.3	....	+6.0	±0.0	+1.4	−2.3	....
Spring	....	−1.0	+0.4	+1.3	....	+2.8	....	−0.3	+0.3	....
Summer	−0.4	−0.3	+0.1	+1.4	+1.8	+3.8	−0.3	+0.1	−1.5	....

The analytical elements and expression used in the computation are as follows:

n	a_n	b_n	B_n	C_n
				° ′
1	−0.56	−1.67	+1.72	198 32
2	−0.12	+0.60	+0.61	348 41
3	+0.70	−0.44	+0.82	122 9

$$T=0+1.72\sin(x+198^\circ\,32')+0.61\sin(2x+348^\circ\,41')$$
$$+0.82\sin(3x+122^\circ\,9')$$
$$x=40^\circ,\ 80^\circ,\ \ldots$$

The above table contains many discrepancies, as might naturally be expected, all the observations that could be made use of only extending over a period of ten months. These discrepancies will appear even greater if we consider each month separately and analyze the effect of the wind on the temperature in detail, as will be shown in the following synopsis:

NORTH WINDS.

The few north winds on record have a depressing effect on the temperature throughout the whole year, except during the month of August, when it was found to elevate the temperature 1°.5 above the mean.

NORTHEAST WINDS.

Although the northeast winds have a depressing effect, except in the months of April and August, we still see that in the course of a single month the effect can be either depressing or elevating.

At the beginning of *November* the winds under consideration are warm, elevating the temperature 12°; then they become colder, having a depressing effect of 10° during the middle and become as cold as —20° toward the end of the month.

The same effects as stated above will be found in *December*, only less pronounced.

In *January*, at the beginning of the month, the depression below the mean =1°, toward the middle 5°, and at the end of the month the wind is warmer by 5°.

The same takes place in *February*, the differences being only −1°, −2° and +2° from the mean.

At the beginning of *March* the effect is +1°.5, during the middle −3°, and toward the end +1°.

April will be found similar to March, the effect being +2°.5, −2°.5, and +1°.5.

May.—At the beginning we see a depression of 7° taking place; during the middle the effect is zero, rising toward the end to +3°.

June.—The first portion of the month shows an effect of −1°, increasing toward the middle to −2°.5, while at the end it amounts to +2°.

July.—The beginning of the month shows —5°; the middle and the end +2°.

August.—Through the whole of August the effect is positive, averaging in the mean 5°.6.

EAST WINDS.

During *November* the effect of the easterly winds will be found similar to the northeast, being only somewhat smaller, namely, +2° for the beginning, −5° for the middle, and −7° for the end.

December.—At the beginning of the month the effect =+10°, toward the middle −3°, reaching —12° at the end of the month.

January gives for beginning +2°, middle −3°, and end +1°.

February.—At the beginning of the month the effect =−4°, at the middle +1°, and toward the end +7°.

March.—During the whole of this month the effect is positive, averaging in the mean +1°.5.

April.—At first we see a depressing effect of —2°, which becomes positive, reaching + 4 toward the end of the month.

May.—No perceptible effect can be found during the beginning of the month, but toward the end we get the value of −1°.3

June shows a negative effect of −0°.6 through its whole duration.

July is positive without any exception, the effect amounting to +1°.0.

August.—There are hardly any easterly winds during this month; the few on record would indicate a rather negative effect.

SOUTHEAST WINDS.

November.—Hardly any observations. Effect negative.

December.—The few observations would indicate a small positive effect.

January.—Entirely negative; the greatest depression equaling −4°.

February.—There are very few observations on record during this month. The effect of the small number taken into consideration is negative.

March.—Giving +2° with hardly any exception.

April.—Is more irregular, being positive by 5° at the beginning, then toward the middle the effect is −4°, vanishing entirely toward the end.

May.—There is no perceptible effect at the beginning; toward the end we get +2°.

June.—The only perceptible effect is positive, there being but a few observations on record.

July.—The few observations seem to indicate a negative effect.

August.—At the beginning of the month the effect is —2°, turning positive toward the middle, namely, +5°, and reaching +8° toward the end.

SOUTH WINDS.

Up to the month of June there are either none or but a few observations on record; after this time the effect is positive or zero, (July).

SOUTHWEST WINDS.

The effect of these winds is positive without any exception, the maximum mean occurring in January (+9°.2) and the minimum in August (+1°).

WEST WINDS.

The number of observations being rather small, a somewhat reliable result could only be obtained for February and June. November, December, January, February, and May seem to be positive, the rest negative.

NORTHWEST WINDS.

Hardly any northwest winds occurred until February. The few results deduced may be found in the table.

CALMS.

As might be expected, the effect of calms during the cold period of the year must be depressing. In summer we might expect the contrary. Our observations show a negative effect until March, when it becomes +1°.0, remaining positive for the months of April, May, and July. During June the effect is depressing, and the same for August.

HOURLY CORRECTIONS FOR THE PERIODIC VARIATIONS OF TEMPERATURE.

The following table, directly derived from Table II, furnishes the means of correcting other incomplete observations, to be taken hereafter at Polaris Bay, in order to obtain the mean temperature of the day:

Corrections to be applied to any hourly observation, taken at or near Polaris Bay, to obtain the mean temperature of the day.

Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
0^h	+1.42	—1.05	+1.02	+3.47	+3.26	+1.02	+0.54	+2.92	+0.02	+0.02	—0.02	—0.93
1	0.55	1.05	0.61	4.15	3.03	1.27	0.81	3.21	0.02	0.02	0.02	0.53
2	0.54	0.94	0.40	4.44	2.65	1.13	0.65	2.74	0.02	0.02	0.02	0.67
3	+0.03	0.94	0.91	3.82	2.13	0.61	0.42	2.08	+0.02	0.02	0.02	0.08
4	—0.23	0.24	0.91	2.87	1.55	0.25	0.60	2.19	±0.00	+0.01	—0.03	0.25
5	—0.24	—0.01	1.12	1.53	0.84	0.19	0.46	2.23	0.00	—0.08	+0.91	—1.02
6	+0.06	+0.10	1.40	+0.56	+0.26	+0.08	+0.13	2.00	±0.00	+0.01	—0.02	+0.10
7	+0.08	0.09	0.55	—0.07	—0.38	—0.07	—0.44	+0.86	—0.46	0.01	0.02	—0.28
8	—0.12	0.09	+0.12	0.84	1.12	0.45	0.71	—0.38	+0.01	0.01	0.02	0.10
9	—0.27	+0.31	—0.26	2.40	1.62	0.74	0.45	0.86	0.01	0.01	0.02	0.32
10	+0.01	—0.02	0.59	2.84	1.88	0.97	0.46	3.32	0.01	0.01	0.02	—0.10
11	0.23	+0.10	1.14	3.26	1.81	1.04	0.90	3.18	0.01	0.01	0.02	+0.65
Noon.	+0.06	0.75	1.24	3.50	1.73	0.98	0.75	3.55	0.01	0.01	—0.02	0.47
1^h	—0.52	0.43	1.17	3.11	1.99	0.95	0.65	3.87	0.01	+0.01	+0.08	0.46
2	0.59	0.19	1.05	2.66	1.88	0.66	0.68	3.52	0.01	—0.22	—0.03	0.35
3	—0.46	0.13	1.02	2.55	1.63	0.31	0.44	2.80	+0.01	+0.01	0.02	0.18
4	+0.13	0.34	0.82	2.18	1.61	0.22	0.27	1.81	—0.26	0.01	0.02	0.24
5	—0.26	0.63	0.82	1.73	1.11	—0.05	0.10	1.72	±0.00	0.01	0.02	0.43
6	—0.06	0.80	—0.23	0.94	0.54	+0.16	—0.10	—1.26	+0.02	0.01	0.02	0.47
7	+0.07	0.74	+0.01	—0.14	—0.22	0.56	+0.43	+0.30	0.02	+0.01	0.02	0.26
8	+0.23	+0.55	+0.42	+0.42	+0.15	0.62	0.37	0.97	0.02	—0.01	0.02	0.17
9	—0.41	±0.00	—0.03	0.53	0.83	0.16	0.63	1.58	0.02	0.01	0.02	0.08
10	0.53	—0.45	+0.41	0.90	1.06	+0.17	0.52	2.29	0.02	0.01	0.02	+0.29
11	—0.22	—0.68	+0.14	+3.05	+1.14	—0.16	+0.38	+2.85	+0.46	—0.02	—0.57	—0.13

TEMPERATURE OF THE AIR AT POLARIS HOUSE.

RECORD AND DISCUSSION OF TEMPERATURES AT POLARIS HOUSE.

The following observations of atmospheric temperature were made at Polaris House after the loss of the vessel had occurred. The latitude of the place was found to be 78° 18′.0, its longitude $4^h\ 41^m.4$ west of Greenwich. A glance at the map accompanying this report shows that the station is situated in a little bight between Cape Hatherton and Littleton Island, named by Kane "Life-boat Cove." The hut in which we spent the winter was situated on a flat spot of the beach only a very short distance from the sea. The box containing the meteorological instruments was fastened to the southern wall of that building. In regard to the topography of the place, we may mention that it was fully exposed to the northwest, west, and southwest, while a range of low hills trended round its northern and eastern shores. As regards the instruments used, all necessary explanation was given in the introductory chapter accompanying the Polaris Bay observations. It is proper to mention that during the latter part of February the box containing the instruments was removed from its original place and fastened to the northern wall of the hut in order to protect it from the direct heat of the sun.

NOVEMBER, 1872.

Time.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	-4.5	- 0.1	+17.0	+19.0	+ 3.2	-0.9	-1.8	-5.5	-1.9	-4.8	- 7.3	-12.6	- 4.2	+11.2	+5.8
1	4.6	+ 0.3	16.8	20.3	3.4	0.5	2.2	5.3	1.5	5.1	9.6	12.6	3.7	11.2	5.7
2	4.6	1.1	17.2	20.1	4.6	0.4	1.9	5.4	1.5	5.1	10.5	13.0	3.7	10.9	5.3
3	4.7	1.2	17.2	20.1	4.0	0.5	1.0	6.3	1.2	6.5	8.0	13.8	- 4.0	10.9	5.8
4	4.3	1.0	17.2	20.5	6.2	-0.5	-0.6	5.3	0.8	4.6	9.1	14.5	+ 0.2	11.0	6.4
5	4.5	1.2	18.0	19.8	7.3	+0.6	+1.0	6.6	1.3	4.2	9.8	14.5	5.4	10.8	6.2
6	4.0	1.0	17.9	19.4	11.9	1.3	2.0	5.9	1.4	3.1	10.0	14.5	6.0	11.1	6.8
7	3.2	3.5	18.0	19.4	10.7	2.0	2.5	5.7	1.4	4.0	9.7	14.7	6.0	11.7	6.5
8	2.5	11.5	18.5	19.3	10.0	2.4	3.5	1.8	2.7	5.4	11.7	15.4	7.5	10.2	6.7
9	2.5	11.8	19.3	18.5	9.8	2.7	2.2	2.6	3.6	6.0	10.8	15.1	7.9	11.0	6.1
10	1.8	12.2	18.0	18.2	9.8	2.4	2.2	5.6	4.0	5.7	12.5	14.7	8.2	10.0	6.1
11	2.5	11.6	19.4	17.6	9.1	2.5	2.5	1.5	3.0	3.0	12.0	15.2	8.8	10.2	6.1
Noon.	4.6	11.3	19.2	17.5	8.5	3.3	2.5	2.0	2.5	2.8	11.3	12.9	9.7	10.0	6.2
1^h	3.5	15.0	19.0	18.2	8.2	3.5	2.4	2.6	3.5	3.7	11.1	11.1	10.3	10.0	6.2
2	4.3	11.0	18.5	17.0	7.4	3.5	2.2	2.6	1.7	3.6	10.8	12.0	10.3	10.0	6.3
3	5.6	14.2	18.0	17.3	7.5	2.0	1.9	2.0	2.3	4.5	11.7	12.6	10.3	10.2	6.5
4	4.6	16.0	18.3	17.4	7.1	1.6	2.0	3.1	2.5	5.6	12.5	13.0	10.2	9.6	6.5
5	4.2	16.1	18.5	17.2	7.0	1.5	2.4	3.6	2.3	6.0	11.9	13.0	10.9	9.0	7.4
6	4.2	15.8	19.4	13.0	6.9	1.5	+0.2	2.9	2.5	6.5	11.7	12.4	10.6	8.2	8.0
7	3.6	15.5	19.3	12.0	6.0	+0.6	-1.5	2.9	2.4	6.2	11.8	13.3	11.3	7.5	8.1
8	2.9	16.0	19.3	6.2	2.0	-0.5	3.2	3.3	4.1	8.7	13.6	13.2	11.2	8.0	9.0
9	2.7	16.1	19.0	6.5	0.4	0.2	3.4	3.4	4.2	7.0	12.7	12.2	11.2	7.5	9.3
10	0.8	16.4	18.7	6.3	0.4	0.9	4.5	3.1	4.6	7.0	12.5	11.0	11.5	6.4	9.6
11	-0.6	+16.6	+19.1	+ 6.5	+ 0.8	-2.0	-5.4	-2.0	-4.4	-7.4	-12.6	-11.2	+11.8	+ 6.4	+9.6
Means.	-3.55	+ 9.84	+14.62	+16.55	+ 6.76	+1.04	+0.17	-3.79	-2.55	-5.28	-10.63	-12.85	+ 6.99	+ 9.70	+6.93

NOVEMBER, 1872.

Time.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	+9.5	- 1.0	- 8.8	-17.0	-13.2	-13.8	+1.3	+4.2	-5.3	-6.3	-4.3	-5.5	- 1.2	-11.5	- 9.6
1	9.5	1.3	9.5	17.5	12.2	12.5	0.3	4.2	4.5	6.6	4.5	5.5	2.3	10.5	9.7
2	9.0	1.3	10.2	17.5	12.1	9.3	0.5	4.2	4.3	6.6	5.0	5.2	3.8	10.5	10.2
3	8.8	1.8	11.2	17.4	12.4	8.4	0.9	5.0	3.6	7.0	4.5	4.5	4.2	11.0	10.5
4	8.9	1.6	13.6	17.6	13.4	7.6	1.1	6.1	4.0	7.2	3.5	4.0	5.6	11.5	10.4
5	9.2	3.3	14.0	17.6	11.9	8.3	1.1	3.4	4.1	7.4	3.8	3.1	5.6	11.4	10.3
6	9.2	3.7	15.3	17.5	10.8	10.9	1.4	1.7	4.9	7.5	5.2	2.0	6.0	11.0	10.3
7	9.4	4.3	14.6	17.5	10.0	12.4	2.0	0.6	4.6	7.5	3.6	3.3	6.0	11.2	9.5
8	9.3	4.7	14.7	17.5	10.0	12.9	2.2	0.4	4.0	6.4	3.1	3.2	6.8	11.2	9.4
9	8.9	6.8	15.0	16.5	9.1	10.5	3.0	+0.3	4.8	6.4	2.4	3.0	7.5	11.9	9.1
10	8.2	6.5	15.0	16.6	8.0	11.1	2.9	-0.4	5.0	5.5	2.0	2.8	7.5	11.8	8.8
11	7.7	7.1	15.1	16.6	8.1	10.6	3.3	1.4	3.5	6.4	1.3	2.3	8.6	11.8	8.9
Noon.	7.7	7.2	15.2	16.7	7.1	10.0	3.2	1.6	4.4	5.5	1.7	3.1	8.0	11.5	8.5
1^h	4.1	8.5	16.0	16.4	6.0	8.5	2.7	1.4	4.5	4.7	2.6	3.5	8.3	11.5	7.3
2	3.2	8.8	15.3	15.8	6.8	9.6	2.7	1.2	4.6	4.0	3.4	3.1	7.6	9.6	7.1
3	1.6	9.3	16.9	15.5	6.8	10.3	2.5	2.2	4.2	4.0	3.3	3.2	8.0	8.0	6.5
4	+0.6	10.7	16.7	16.3	6.8	7.0	3.0	1.0	4.3	5.1	4.0	2.9	8.5	7.6	7.3
5	-0.2	11.6	15.8	16.0	7.8	- 3.0	3.1	2.6	4.9	6.0	4.0	2.9	9.5	7.6	6.5
6	-0.2	12.5	16.0	15.5	8.2	+ 1.0	3.1	3.1	4.4	6.0	5.0	2.7	9.2	7.3	6.5
7	+0.2	12.7	16.3	15.5	6.6	2.4	3.2	3.2	4.9	5.0	5.1	2.7	9.3	8.5	7.3
8	+0.2	12.6	17.1	15.5	7.0	4.2	4.0	3.0	5.1	5.3	5.6	2.5	11.0	8.7	6.5
9	-0.5	12.7	17.5	15.1	9.0	4.2	4.1	4.3	4.9	6.0	6.0	2.5	11.0	9.5	6.0
10	0.6	13.0	17.5	13.3	10.0	2.5	4.6	4.5	5.5	4.5	5.9	2.3	11.8	9.5	6.0
11	-0.7	-13.7	-17.3	-13.3	-12.7	+ 1.4	+4.7	-4.5	-5.5	-5.0	-5.8	-1.6	-12.1	- 9.5	- 6.8
Means.	+5.08	- 7.32	-14.36	-16.32	- 9.42	- 6.70	+2.54	-0.18	-4.58	-5.91	-3.98	-3.23	- 5.81	-10.17	- 8.29

DECEMBER, 1872.

Time.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	− 6.6	−11.6	−11.6	− 9.5	−10.3	−12.2	−10.2	+7.1	− 0.7	−11.0	−14.0	−11.5	−16.2	−18.5	−10.7
1	6.3	12.4	12.5	9.0	10.9	11.6	11.4	6.3	1.0	11.3	14.1	12.8	16.2	17.6	10.4
2	6.2	12.4	13.0	10.0	10.5	12.5	12.6	7.2	2.1	11.4	14.0	12.4	16.5	17.2	10.6
3	8.0	12.4	15.4	10.6	10.8	10.9	14.2	7.0	3.1	12.1	13.3	12.7	16.4	17.0	10.7
4	10.7	12.1	16.0	10.1	11.1	10.8	13.6	9.0	3.8	13.7	13.2	12.8	16.6	16.4	11.8
5	10.6	11.7	14.1	9.6	11.3	11.4	13.3	8.6	4.3	13.6	12.6	11.6	17.7	15.7	11.6
6	10.8	12.0	14.2	9.6	10.2	11.7	12.5	8.7	5.6	13.4	12.4	12.5	16.8	14.8	11.3
7	7.5	12.3	14.5	8.9	10.4	10.4	12.7	8.4	5.7	14.5	12.5	12.9	16.8	14.6	10.5
8	7.4	13.6	14.6	8.5	8.3	11.4	11.9	8.3	6.9	14.1	10.8	13.3	17.0	14.6	9.0
9	7.0	12.8	14.0	8.2	8.2	10.7	11.0	8.9	7.2	13.8	10.7	13.4	16.3	14.3	9.3
10	7.2	13.2	14.0	7.8	11.0	12.2	9.4	6.8	7.3	11.7	10.6	12.7	17.9	14.3	9.0
11	7.7	12.8	15.3	8.0	9.7	13.1	9.6	6.0	8.4	11.2	11.8	12.9	18.7	13.7	9.2
Noon.	8.0	11.1	16.2	8.4	9.8	13.0	10.7	7.2	9.1	12.0	9.7	13.0	18.6	13.6	8.9
1^h	9.0	11.6	15.8	7.7	9.3	14.2	10.1	7.2	9.3	12.2	9.5	13.2	18.9	13.7	9.1
2	9.4	12.2	15.3	8.1	8.5	15.6	9.5	6.4	11.1	12.1	11.3	13.8	19.0	13.9	10.0
3	10.2	10.8	13.3	7.8	7.8	16.4	9.5	7.0	10.2	12.1	11.2	14.6	18.7	14.5	10.5
4	10.2	10.8	13.7	9.0	7.3	15.8	8.6	6.1	10.5	14.3	11.8	15.0	19.3	14.6	11.1
5	10.5	13.1	14.5	8.0	9.4	12.2	7.3	6.5	10.2	14.4	12.1	14.4	18.8	13.9	11.0
6	11.0	12.2	14.5	7.5	9.3	10.7	− 6.2	6.3	11.2	15.1	12.4	14.5	19.4	13.0	10.8
7	10.3	12.7	14.6	7.6	10.1	9.4	+ 3.4	6.3	11.6	16.1	13.2	15.4	19.7	12.2	10.5
8	10.1	13.0	13.3	7.1	12.2	8.3	5.2	6.0	12.0	16.1	12.7	15.7	19.6	11.5	9.4
9	10.0	11.7	13.3	7.2	10.8	7.4	5.9	2.0	12.3	15.4	11.0	15.3	19.4	11.0	9.5
10	10.7	12.7	11.6	7.2	9.4	7.5	3.6	0.3	12.1	15.2	10.1	15.2	19.4	11.2	8.4
11	−10.5	−11.5	−11.1	− 7.2	−12.2	− 7.6	+ 7.0	+0.3	−11.1	−15.0	−11.0	−15.8	−19.1	−10.8	− 8.6
Means.	− 8.99	−12.20	−14.02	− 8.44	− 9.95	−11.54	− 7.47	+6.41	− 7.78	−13.41	−11.92	−17.85	−18.04	−14.28	−10.08

DECEMBER, 1872.

Time.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	− 8.5	−10.3	−7.6	−8.5	−3.8	−6.5	−1.3	+ 2.4	+ 8.3	+14.8	− 1.6	+ 1.9	−11.5	−14.8	−20.6	−26.9
1	7.6	9.6	7.4	9.2	3.6	7.4	+0.3	2.0	8.5	15.1	2.3	2.5	11.6	15.3	20.0	28.1
2	7.7	9.7	6.3	7.5	3.8	7.3	1.2	1.2	9.1	15.5	7.4	4.3	12.2	16.1	20.3	28.0
3	7.2	9.9	5.3	6.5	4.0	7.5	1.4	2.9	8.2	15.5	8.0	4.3	12.6	17.3	20.7	28.5
4	6.7	9.4	5.0	7.4	4.5	8.4	6.3	1.7	12.4	11.9	8.6	3.7	11.8	17.4	21.5	28.6
5	6.9	8.5	5.0	7.1	4.2	8.5	5.2	1.3	5.8	9.0	9.3	+ 2.5	11.2	17.6	21.2	29.0
6	8.5	10.0	3.6	6.4	4.2	8.0	5.0	1.2	5.3	13.8	9.6	− 1.4	11.5	17.5	21.3	27.7
7	8.3	10.9	3.9	6.5	3.3	7.7	5.1	1.9	4.6	11.1	9.5	6.3	11.0	18.4	21.4	28.5
8	8.4	11.2	1.8	7.5	3.5	7.5	5.3	1.8	4.3	9.0	10.4	9.0	11.2	19.5	21.5	28.9
9	8.8	9.7	2.0	7.7	3.6	7.2	5.6	2.2	5.2	5.2	7.8	8.8	10.9	19.1	22.3	29.7
10	10.0	9.5	3.2	7.6	4.1	7.3	6.0	1.7	4.6	5.3	7.7	10.0	9.2	19.6	22.5	29.3
11	10.2	10.3	3.0	7.4	3.7	6.4	6.2	2.2	3.4	+ 3.2	6.5	10.3	9.0	19.9	22.8	28.4
Noon.	10.4	11.5	2.6	5.4	4.2	6.7	6.7	5.8	3.6	− 0.6	6.4	10.1	9.4	20.0	22.6	26.5
1^h	10.7	9.4	2.5	4.6	4.7	6.9	5.3	5.3	0.8	+ 1.2	7.2	9.0	10.2	20.7	23.4	26.4
2	10.5	8.7	3.8	4.8	4.5	5.5	5.4	6.1	0.2	0.5	7.4	9.6	11.3	20.8	23.8	26.4
3	10.3	8.5	4.0	4.5	4.9	2.8	4.6	12.2	0.3	0.3	7.4	10.7	11.2	21.0	24.0	27.0
4	9.9	8.7	4.7	4.3	5.5	2.7	4.4	10.7	0.5	1.8	6.3	11.0	11.3	21.5	24.2	27.0
5	10.0	7.7	6.5	4.0	5.7	3.3	2.7	9.5	1.6	+ 2.2	5.3	10.1	10.5	20.4	24.3	27.5
6	9.6	7.3	6.4	3.9	6.4	5.6	1.8	7.5	1.6	− 0.3	2.6	8.2	11.4	20.3	24.1	28.1
7	9.7	7.4	6.9	4.2	7.0	5.5	2.0	7.6	1.2	0.4	3.0	8.6	12.0	20.6	24.4	27.4
8	9.6	7.2	7.2	4.6	7.6	6.4	3.7	7.5	0.6	1.2	1.6	9.5	12.9	20.6	25.3	28.0
9	10.2	7.3	8.0	4.7	7.3	5.2	3.6	6.8	1.3	2.8	0.4	9.6	12.8	20.8	35.2	27.3
10	10.1	8.1	8.4	4.7	7.4	4.6	3.8	7.5	2.3	3.9	0.7	9.1	14.0	22.0	24.9	28.2
11	− 9.8	− 7.5	−9.0	−3.6	−6.9	−4.1	+3.2	+ 7.2	+ 4.2	− 4.8	− 0.5	−10.0	−13.3	−21.2	−26.8	−29.2
Means.	− 9.15	− 9.09	−5.21	−5.94	−4.93	−6.21	+3.89	+ 4.84	+ 4.08	+ 5.18	− 5.70	− 5.92	−11.42	−19.27	−22.88	−27.94

JANUARY, 1873.

Time.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	-29.5	-29.7	-30.6	-32.7	-19.4	-27.4	-17.5	-12.4	-17.5	-15.9	-24.5	-39.6	-33.7	-29.6	-33.0
1	27.7	29.6	31.0	34.4	14.2	27.5	17.3	12.2	17.8	16.3	24.7	40.3	33.0	29.0	33.4
2	27.4	30.0	30.8	33.5	14.3	27.5	16.8	12.4	17.6	16.4	25.0	40.6	32.8	28.5	33.2
3	28.2	30.2	30.2	34.2	12.5	26.8	17.0	11.5	17.8	16.2	25.6	38.0	32.7	28.9	34.4
4	28.3	30.8	30.2	32.6	12.2	26.6	16.8	11.7	17.4	15.8	25.5	37.5	31.3	31.3	34.5
5	28.2	30.6	29.3	34.1	12.3	26.6	16.4	11.5	17.5	15.7	26.2	38.5	31.5	32.5	32.3
6	27.5	31.3	28.6	33.8	10.7	27.8	16.2	13.3	18.2	15.8	26.9	38.0	31.1	33.4	35.0
7	27.0	30.4	29.8	33.5	10.6	26.9	16.4	12.4	18.1	16.0	27.0	37.3	31.6	33.6	31.8
8	27.4	30.4	29.2	32.3	9.5	27.3	16.3	12.7	18.1	16.0	28.6	37.5	32.0	34.4	32.8
9	27.9	31.8	30.0	33.1	9.8	27.2	14.7	12.6	18.2	15.4	32.4	37.4	32.4	34.3	31.5
10	27.1	31.2	30.6	33.3	8.9	27.9	14.6	13.2	17.9	15.6	31.3	36.6	31.6	35.6	31.0
11	26.5	31.8	30.5	33.1	10.5	27.4	14.2	12.9	18.3	14.8	32.5	36.4	31.0	35.8	30.9
Noon.	25.5	31.0	31.2	32.5	17.3	27.2	14.3	12.9	17.7	15.4	32.0	36.7	32.1	36.2	29.0
1^h	25.8	31.7	31.5	32.3	19.6	26.5	18.3	13.5	18.0	16.3	32.3	35.3	31.7	35.8	28.9
2	27.3	32.1	31.6	32.4	17.8	24.8	17.7	14.2	18.0	16.5	33.3	35.6	31.6	35.0	30.2
3	26.5	32.3	33.6	31.8	22.3	24.2	11.8	15.4	18.1	16.4	34.0	34.3	30.8	33.6	29.4
4	28.2	32.3	33.7	30.6	22.4	22.8	11.2	16.6	17.7	17.1	35.5	34.0	30.5	34.6	30.0
5	28.4	32.5	32.4	30.2	24.7	22.2	11.4	17.0	17.5	17.4	34.5	33.9	30.7	34.1	28.7
6	29.0	32.4	31.8	30.5	25.0	21.3	11.1	17.0	17.4	17.9	33.3	27.3	31.6	33.8	29.3
7	28.3	31.7	32.4	30.5	25.6	20.4	11.7	16.4	17.1	19.7	33.5	26.2	30.0	33.4	28.9
8	28.7	32.0	33.4	28.7	25.4	19.8	11.5	16.6	17.0	21.0	35.5	26.5	30.2	33.6	29.5
9	29.2	31.7	31.2	26.2	25.7	19.6	12.4	16.3	16.4	21.5	36.2	25.9	29.3	32.5	28.6
10	28.8	31.4	32.5	25.7	23.5	18.6	11.2	17.1	16.6	22.1	38.0	26.2	30.0	32.7	27.5
11	-29.3	-30.5	-33.3	-23.4	-26.2	-17.4	-12.0	-17.1	-16.5	-23.4	-39.3	-33.0	-29.5	-33.4	-26.9
Means.	-27.82	-31.23	-31.23	-31.48	-17.52	-24.65	-14.53	-14.12	-17.60	-17.28	-31.15	-34.73	-31.36	-33.15	-30.86

JANUARY, 1873.

Time.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	-27.1	-34.0	-38.0	-32.0	-30.6	-28.0	-36.4	-32.3	-37.4	-37.2	-36.3	-39.5	-23.4	-39.0	-31.1	-19.7
1	27.0	31.6	39.7	31.6	32.4	29.6	36.0	32.7	37.6	35.8	37.0	39.6	24.5	40.7	32.4	18.8
2	27.2	32.8	39.0	31.7	33.2	29.7	35.8	34.0	37.6	36.4	37.8	39.3	23.6	39.3	35.9	18.2
3	27.3	32.0	38.5	32.1	32.5	29.4	35.6	34.6	37.6	35.7	37.4	39.3	23.4	38.8	37.2	18.3
4	28.4	32.5	38.4	32.5	32.8	29.7	35.6	36.2	37.4	37.4	36.6	40.0	23.4	38.5	38.9	19.2
5	29.1	34.0	38.7	33.9	32.3	30.0	35.7	36.0	36.4	37.3	37.2	36.5	23.6	38.9	39.6	19.3
6	29.2	33.6	34.8	33.9	31.5	31.3	34.7	35.8	36.8	37.3	37.6	37.2	24.7	39.0	40.2	19.0
7	28.5	34.6	33.0	33.2	31.2	32.5	34.0	36.8	36.2	38.0	38.5	36.1	24.4	39.2	40.5	19.5
8	28.6	35.6	30.6	32.9	29.5	33.1	32.5	36.6	36.4	39.2	39.2	35.6	24.3	40.1	41.5	19.7
9	29.8	33.4	26.7	33.6	27.8	32.8	29.6	35.5	37.5	36.6	39.5	28.4	26.5	40.6	41.7	19.4
10	30.2	38.0	27.1	34.0	26.8	34.0	29.3	37.6	38.7	35.5	40.4	23.6	27.0	41.7	41.8	19.7
11	30.7	36.6	28.6	35.4	24.3	33.8	28.3	34.8	39.6	35.8	40.9	22.4	28.2	41.2	41.8	19.4
Noon.	31.6	35.4	29.0	34.3	27.6	35.0	28.4	36.4	40.3	34.7	41.5	21.5	28.4	38.3	35.6	19.3
1^h	33.5	35.5	30.4	31.6	23.7	36.4	27.5	36.5	40.5	34.8	38.6	22.5	30.5	35.5	35.7	20.0
2	32.9	37.6	30.6	31.3	23.5	35.9	27.4	37.8	39.4	32.3	38.7	23.5	30.7	33.7	34.4	20.3
3	32.5	37.5	29.8	31.5	23.0	36.3	28.2	37.6	40.5	32.4	39.8	23.2	30.3	28.5	35.1	20.2
4	32.3	37.2	27.9	32.2	23.1	36.4	27.5	38.5	41.0	32.5	38.3	23.5	30.3	28.2	33.6	20.4
5	32.4	38.5	28.5	30.1	24.5	37.3	30.4	38.4	41.3	32.6	36.4	23.0	31.2	28.5	33.6	22.1
6	31.0	38.3	27.5	30.3	24.5	37.8	30.3	37.7	36.7	33.7	35.6	22.2	33.6	27.3	32.6	24.2
7	32.5	37.9	28.0	29.4	25.4	36.8	30.4	37.4	37.2	34.7	36.0	23.1	35.3	27.5	33.7	26.4
8	33.4	40.1	28.0	28.3	27.8	36.1	30.6	37.3	34.4	34.6	36.4	22.8	37.2	26.3	31.3	26.6
9	33.6	38.0	28.2	27.7	28.0	36.2	30.8	38.0	36.1	33.5	36.8	23.3	37.7	26.4	30.7	27.0
10	33.9	38.2	29.3	26.0	29.2	36.6	31.5	36.6	35.1	34.0	37.0	23.2	39.1	29.8	29.1	28.4
11	-33.5	-38.1	-31.3	-28.3	-28.9	-36.5	-31.0	-36.9	-35.4	-35.5	-37.9	-23.1	-39.5	-30.3	-27.5	-31.1
Means.	-31.51	-35.88	-31.73	-31.58	-28.09	-34.63	-34.06	-36.33	-37.80	-35.31	-37.98	-28.85	-29.20	-34.89	-35.65	-21.51

FEBRUARY, 1873.

Time.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	-32.7	-26.5	-22.5	-19.3	-14.3	- 8.0	-21.8	-26.3	- 9.3	-23.0	-22.3	-32.8	-34.6	-31.8	-33.2
1	34.3	28.3	21.3	18.5	12.0	12.3	21.5	28.0	9.6	25.5	16.0	33.6	34.5	33.4	32.5
2	36.8	29.0	20.3	17.6	11.7	13.3	20.2	29.4	9.5	25.2	16.0	35.5	33.0	32.8	34.0
3	35.5	27.2	20.4	16.5	11.7	15.5	17.8	31.6	10.5	26.2	15.2	33.1	33.5	31.0	34.0
4	33.3	27.5	20.4	16.0	11.4	15.8	16.5	29.2	11.2	25.1	8.7	31.6	33.5	30.0	33.7
5	31.4	27.3	19.8	15.1	11.2	15.4	16.0	29.3	11.5	24.7	9.5	32.0	33.2	31.2	33.5
6	30.5	27.6	18.0	14.4	11.0	14.2	16.0	29.4	12.4	22.5	11.6	32.1	33.5	31.9	36.4
7	31.8	25.2	19.6	13.5	11.1	13.5	17.0	27.9	11.9	17.4	12.6	33.3	32.3	32.2	36.6
8	31.2	23.9	19.3	14.7	11.3	10.6	17.5	26.5	11.6	20.5	9.6	33.1	34.0	31.3	33.6
9	31.0	23.0	19.0	16.6	10.3	9.4	17.6	25.8	14.4	23.3	9.0	33.2	34.7	30.5	35.0
10	30.7	22.3	18.5	17.8	9.5	9.5	17.5	25.5	13.5	14.5	8.8	33.4	35.2	30.4	35.6
11	29.5	22.1	18.6	16.5	9.5	8.5	16.5	27.5	17.2	15.4	9.4	31.5	36.3	31.3	36.7
Noon.	30.6	22.4	19.6	20.2	9.5	9.5	14.6	25.9	20.1	21.3	9.6	30.5	35.0	32.5	37.7
1^h	30.2	21.3	19.6	19.5	8.3	12.5	13.9	24.0	22.6	26.5	10.6	30.6	35.1	32.6	37.6
2	28.3	21.6	18.4	18.0	8.6	15.0	12.7	23.5	23.6	24.2	17.5	28.5	34.5	35.0	35.3
3	28.3	21.5	20.0	19.1	6.5	15.5	9.4	20.6	25.7	25.2	18.7	27.8	34.2	31.2	35.0
4	28.0	20.9	20.2	19.6	4.0	18.0	2.2	18.1	24.0	23.9	20.5	25.4	34.6	32.1	34.5
5	26.3	21.2	21.0	19.5	1.5	19.3	2.3	15.4	22.6	23.5	23.5	24.9	35.0	30.5	35.6
6	26.7	20.3	21.4	18.4	2.5	18.6	3.0	4.6	22.4	23.7	27.4	31.2	35.2	34.7	33.6
7	30.3	20.4	21.2	17.3	0.3	19.3	5.0	4.5	23.8	24.7	30.4	32.0	35.3	33.2	33.9
8	31.2	20.6	21.4	16.3	1.5	21.0	14.5	5.4	29.2	22.5	30.5	35.9	34.2	33.8	34.7
9	25.8	21.0	20.7	15.2	1.8	21.3	17.4	7.4	30.2	22.6	30.6	34.2	32.8	31.6	35.0
10	25.8	20.8	21.6	15.3	1.2	22.0	23.0	8.0	28.7	23.7	30.9	32.1	31.6	33.8	34.6
11	-26.0	-21.2	-21.0	-14.6	- 3.5	-22.3	-25.5	- 8.2	-26.8	-20.0	-34.0	-32.3	-32.1	-34.5	-33.5
Means.	-29.43	-23.46	-20.16	-17.06	- 7.67	-15.01	-14.98	-20.92	-18.43	-18.55	-18.04	-31.69	-34.49	-32.22	-34.83

FEBRUARY, 1873.

Time.	16	17	18	19	20	21	22	23	24	25	26	27	28
	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	-33.5	-31.2	-32.4	-33.2	-31.6	-37.5	-35.3	-16.6	- 4.7	-25.5	-28.5	-28.5	-31.8
1	32.6	30.8	32.4	34.5	34.5	38.5	34.6	15.6	4.9	26.0	28.3	28.6	34.8
2	33.5	30.5	32.5	33.6	34.6	37.7	32.9	15.3	4.5	26.5	29.0	28.5	34.5
3	32.7	31.2	31.6	33.0	35.5	37.3	32.5	16.5	3.4	28.5	27.5	29.2	34.6
4	32.5	31.4	30.7	34.5	34.4	37.5	31.6	15.5	5.0	28.4	29.2	29.5	33.8
5	33.3	31.3	31.5	34.6	34.6	37.5	30.5	14.8	8.6	27.5	28.5	28.5	32.8
6	31.2	30.6	33.5	33.4	34.0	37.5	30.3	13.7	8.8	24.6	28.5	28.6	32.3
7	30.6	29.3	32.4	31.3	35.2	35.8	30.0	11.5	7.9	28.8	28.5	28.6	34.3
8	32.1	31.9	32.6	31.5	35.1	34.0	29.2	12.3	9.0	27.8	27.8	28.0	32.6
9	31.5	32.2	32.6	31.4	36.5	34.7	27.6	12.5	9.0	26.5	27.4	27.3	32.2
10	29.4	30.5	31.3	30.7	38.3	35.9	26.5	12.4	8.2	26.7	29.2	26.5	30.0
11	29.7	30.7	31.4	30.6	38.4	36.5	27.5	13.0	9.3	27.0	29.4	28.6	25.5
Noon.	28.8	32.0	33.6	30.5	39.8	36.5	26.8	10.7	18.5	27.9	29.6	29.5	20.2
1^h	29.3	33.4	33.5	30.6	40.6	33.5	26.4	13.5	20.3	28.8	29.4	29.3	16.0
2	29.6	33.6	33.9	30.0	41.0	35.4	26.0	15.9	22.4	27.3	28.5	30.0	13.6
3	30.0	34.7	35.5	29.4	41.2	35.6	24.6	16.5	23.5	26.5	29.7	28.6	13.3
4	30.3	35.2	35.7	34.7	40.3	36.7	26.7	18.2	26.2	26.5	30.5	27.5	14.0
5	29.5	33.3	35.3	33.5	41.5	37.6	26.8	18.4	26.2	28.8	29.8	27.6	14.7
6	29.3	34.2	36.0	33.5	42.5	37.3	25.9	17.2	25.5	29.1	29.5	29.6	14.6
7	30.2	36.5	34.2	34.2	41.5	38.5	25.3	18.3	28.2	28.2	29.6	31.5	15.5
8	29.5	36.7	34.2	33.1	40.7	39.6	24.0	16.6	28.5	29.2	29.4	33.0	15.3
9	29.4	34.9	32.8	31.4	40.3	38.5	22.0	16.7	28.6	25.5	29.5	32.4	15.8
10	29.6	33.6	33.5	32.6	40.2	38.3	20.1	17.5	29.5	26.2	28.6	33.0	16.5
11	-31.7	-34.0	-34.2	-30.9	-38.2	-36.9	-19.5	-16.0	-26.7	-27.3	-29.4	-34.0	-16.0
Means.	-30.83	-32.65	-33.22	-32.78	-38.23	-36.87	-27.61	-15.22	-16.14	-27.29	-28.97	-29.43	-24.07

MARCH, 1873.

Time.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	-16.5	-26.6	-38.5	-33.8	-34.7	-39.3	-26.3	-31.0	-27.5	-20.2	-29.5	-16.0	-21.0	-29.6	-29.2
1	16.5	28.5	39.5	35.3	34.5	39.6	25.0	29.5	21.3	20.5	26.3	7.5	19.5	29.5	28.5
2	16.0	28.3	40.6	35.4	35.8	38.2	26.5	28.5	20.8	21.0	25.5	8.8	21.5	28.6	28.6
3	16.3	29.0	39.5	33.5	37.6	39.0	26.5	23.6	22.2	19.7	25.3	9.7	21.5	27.5	29.2
4	17.0	29.6	38.7	32.0	37.5	24.1	28.7	25.0	20.0	18.3	26.4	12.0	23.6	27.4	28.0
5	17.2	31.5	39.3	33.2	38.8	23.5	25.5	25.2	14.6	17.0	25.2	14.5	25.4	29.8	27.1
6	17.0	33.6	39.4	33.3	39.6	25.7	27.6	26.8	15.9	16.4	24.6	15.6	25.6	28.5	27.0
7	17.3	34.0	39.0	33.4	39.6	26.6	28.2	27.4	18.6	16.5	23.5	17.5	24.5	29.5	25.6
8	17.6	34.8	36.5	33.0	40.7	25.3	27.3	20.8	14.0	19.6	23.3	18.0	26.4	24.4	24.3
9	17.5	35.0	34.5	32.9	40.8	25.4	26.5	19.0	11.4	20.5	24.4	18.0	27.4	22.8	22.5
10	17.5	34.5	34.8	31.4	40.5	23.7	27.0	17.0	10.5	19.8	23.7	16.5	27.5	20.5	22.5
11	17.8	32.5	34.3	29.0	39.6	21.5	26.5	15.1	11.2	17.9	23.6	16.0	26.4	20.5	23.3
Noon.	17.8	31.6	34.5	28.5	37.9	23.5	24.5	14.4	11.4	18.9	23.0	15.8	26.2	24.9	23.0
1^h	18.0	31.5	33.6	27.1	34.9	29.0	22.2	17.3	16.7	21.0	22.5	14.5	26.5	26.5	22.3
2	18.3	29.5	33.9	26.5	33.3	30.1	22.6	19.5	11.7	20.5	22.5	15.5	23.6	27.2	23.8
3	18.5	28.7	34.7	26.7	34.3	34.6	22.5	20.0	16.9	22.5	22.4	15.9	24.7	27.5	24.4
4	18.3	32.5	36.1	27.5	33.0	37.7	24.0	15.8	11.8	24.0	21.5	15.6	27.5	27.5	24.3
5	18.4	33.3	36.3	30.0	31.5	37.6	28.3	14.7	12.0	25.2	21.3	17.0	30.6	26.3	25.4
6	18.5	35.6	34.9	29.3	33.5	37.0	26.6	13.6	12.7	26.5	22.0	18.0	31.2	26.1	24.8
7	19.6	35.8	32.6	31.0	36.0	37.9	33.5	17.7	13.7	27.3	20.4	19.2	29.5	26.4	25.5
8	21.0	34.9	33.8	32.4	37.6	36.8	34.8	24.0	16.5	28.5	20.3	19.6	31.8	26.6	26.0
9	23.6	36.5	34.0	33.0	37.3	29.4	35.0	26.5	18.0	29.3	19.6	18.3	29.9	26.5	25.2
10	24.0	37.3	33.5	34.5	36.4	28.5	33.9	26.2	18.3	29.4	19.2	19.2	30.5	29.6	26.1
11	-24.5	-38.0	-32.5	-33.5	-37.3	-27.5	-31.5	-28.4	-18.9	-30.5	-19.5	-20.1	-31.3	-30.6	-27.0
Means.	-18.53	-32.63	-36.04	-31.09	-36.78	-31.73	-27.54	-21.96	-16.11	-22.13	-23.15	-15.78	-26.40	-26.85	-25.57

MARCH, 1873.

Time.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	-28.6	-16.5	-21.5	-33.0	-15.5	-13.6	-24.5	-25.9	-18.0	-19.0	-28.5	-28.5	-27.3	-27.8	-28.0	-29.3
1	29.5	16.8	27.0	30.3	15.6	15.1	25.2	27.5	17.7	20.5	29.7	26.8	27.5	26.5	29.2	28.4
2	30.3	17.0	28.0	31.5	15.5	18.5	25.5	27.2	21.0	21.3	30.5	27.1	27.8	26.5	29.5	27.0
3	30.5	17.3	29.6	28.0	15.4	18.5	25.7	28.6	28.1	21.5	27.2	29.6	27.5	27.4	29.3	28.2
4	29.7	17.4	31.3	28.5	14.2	17.2	25.5	27.2	26.8	23.2	27.5	31.5	30.9	27.0	28.4	28.5
5	29.7	19.0	32.5	27.1	14.0	18.3	26.3	26.5	19.3	21.5	31.5	31.6	32.9	22.6	28.7	29.6
6	29.5	18.2	33.4	24.0	13.8	18.7	26.5	26.0	16.0	21.8	28.3	31.4	30.3	25.1	26.4	28.5
7	26.5	18.0	33.5	20.3	14.3	18.6	26.7	25.8	11.0	23.9	24.8	27.2	26.2	25.7	28.9	27.3
8	25.6	18.5	32.9	19.5	13.5	17.9	25.7	23.9	6.2	22.4	24.5	28.3	31.2	23.5	25.2	28.0
9	24.8	18.3	32.6	18.3	13.2	19.6	25.9	22.4	5.6	25.6	24.0	29.0	25.6	27.3	24.6	27.2
10	24.5	18.2	32.4	17.0	12.8	18.5	25.6	24.5	3.6	25.8	23.6	29.8	26.3	27.4	25.6	28.0
11	23.7	18.2	31.9	16.4	12.4	18.6	25.5	26.9	4.3	25.0	22.8	27.8	27.5	27.6	32.0	27.3
Noon.	22.6	18.5	30.3	15.0	11.6	20.5	25.3	27.0	4.5	25.4	21.0	23.2	28.5	28.5	25.6	26.5
1^h	20.8	18.5	28.8	15.3	11.3	21.0	25.9	25.8	2.5	27.1	22.5	20.0	29.0	29.5	27.5	25.8
2	18.5	19.5	28.1	15.5	10.4	22.5	25.9	29.0	3.8	28.2	24.6	21.4	28.3	28.0	28.5	26.1
3	13.4	19.3	31.0	15.0	11.0	22.7	25.7	24.0	9.7	23.5	26.5	21.5	27.2	28.2	31.2	27.2
4	13.7	20.1	32.0	14.4	11.9	21.7	28.7	22.5	8.5	23.7	27.2	22.6	26.8	29.4	31.0	27.9
5	14.5	20.5	33.9	14.7	13.6	23.4	28.5	22.5	14.8	24.6	30.5	21.7	24.5	29.6	31.3	27.7
6	15.0	21.4	35.3	15.6	14.0	24.6	30.5	27.6	21.1	24.9	32.5	22.3	26.2	31.7	29.4	27.5
7	15.4	21.5	35.6	15.3	14.3	24.0	29.4	19.5	23.5	24.5	34.6	22.0	27.5	32.9	30.8	27.4
8	16.1	21.8	36.2	15.6	14.5	22.6	30.7	24.2	24.0	26.6	35.6	22.4	28.6	32.8	30.7	27.3
9	16.5	22.3	36.6	15.4	14.2	23.3	27.5	31.5	27.5	27.5	35.6	21.8	29.1	36.5	30.4	28.5
10	16.2	23.1	36.0	15.8	14.3	24.5	27.3	25.6	26.6	29.0	34.4	25.2	30.5	25.8	30.5	27.6
11	-15.9	-25.4	-34.2	-15.6	-14.7	-24.0	-26.9	-21.4	-23.8	-29.6	-34.5	-26.0	-29.6	-28.7	-30.6	-28.3
Means.	-22.15	-19.39	-31.86	-19.88	-13.58	-20.33	-26.70	-25.48	-19.49	-24.42	-28.43	-25.78	-28.20	-27.75	-28.89	-27.79

APRIL, 1873.

Time.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	-29.5	-31.2	-30.5	-27.5	-19.2	-18.5	-14.3	-14.6	-17.6	-24.1	- 5.7	-16.1	-16.0	+ 1.5	+11.0
1	29.5	28.1	31.3	26.3	17.5	19.2	14.0	14.3	17.5	19.3	5.8	17.3	16.3	1.5	11.5
2	29.6	31.5	30.5	26.8	18.5	19.0	13.4	14.7	17.6	20.1	5.6	16.0	17.2	1.5	11.5
3	30.3	29.6	31.1	27.1	18.7	19.2	13.2	15.1	17.3	22.8	4.4	14.8	13.8	2.3	11.2
4	29.6	31.4	31.3	27.0	17.3	19.2	13.6	14.7	16.0	20.5	4.2	12.3	10.6	1.8	9.0
5	28.0	30.2	27.7	26.1	18.4	18.8	13.5	12.5	11.5	15.0	2.8	10.0	8.5	1.4	10.1
6	29.1	30.4	22.0	25.2	18.5	18.7	13.7	11.0	9.4	8.1	- 0.3	6.5	6.7	2.4	9.8
7	28.2	28.5	20.4	23.7	17.7	18.0	12.9	9.6	7.1	2.9	+ 0.6	- 1.6	4.0	5.3	10.0
8	26.5	22.8	19.5	20.9	17.7	17.2	12.6	8.6	4.6	1.7	2.7	+ 0.5	3.8	4.7	11.8
9	25.3	20.4	15.4	18.7	17.6	16.5	12.5	7.9	12.0	0.7	3.4	2.4	2.0	8.3	14.0
10	24.0	20.2	18.0	16.2	17.3	15.3	12.2	7.2	12.6	0.7	6.8	1.0	2.5	6.3	18.9
11	26.2	20.5	15.5	15.3	17.3	15.5	11.2	7.8	14.2	1.3	5.4	+ 0.6	- 2.1	9.3	17.2
Noon.	25.8	23.6	15.3	14.5	17.2	16.6	11.4	7.5	15.5	0.9	5.9	- 1.6	+ 0.5	13.0	11.4
1^h	25.7	26.5	17.5	18.2	16.8	15.2	11.7	8.5	14.7	1.5	6.0	2.4	- 1.3	14.3	10.5
2	21.5	25.9	18.8	21.2	16.9	15.4	11.5	9.0	15.0	1.9	5.3	- 1.5	1.4	15.4	8.7
3	21.4	26.7	22.5	23.4	16.5	15.1	12.2	9.2	14.6	2.3	+ 0.1	+ 0.3	0.8	15.3	6.0
4	21.2	28.4	22.8	22.0	16.7	15.8	12.1	8.7	14.3	2.5	- 4.2	+ 0.5	0.7	14.0	2.9
5	21.6	27.3	24.7	23.5	17.3	15.4	12.3	9.9	14.4	3.6	5.4	- 2.4	1.9	13.4	1.3
6	24.8	29.4	26.8	23.2	17.4	15.6	12.7	10.6	15.0	4.4	7.6	4.6	0.7	12.9	3.5
7	27.3	30.5	28.1	24.5	17.2	15.7	13.2	12.1	15.5	4.7	9.5	8.0	- 0.5	12.3	3.7
8	25.8	30.4	27.9	26.8	17.5	16.5	13.0	13.5	17.2	4.0	11.5	8.8	+ 0.8	11.9	3.6
9	26.4	30.6	28.4	26.4	17.7	15.4	13.5	14.5	19.4	4.7	12.5	12.3	3.2	11.0	4.0
10	31.5	29.7	28.2	25.3	18.0	15.0	14.0	16.4	21.5	5.5	14.3	9.5	3.0	11.2	1.9
11	-31.3	-28.9	-28.1	-23.9	-18.2	-15.1	-14.1	-16.7	-23.0	- 6.0	-15.2	-11.6	+ 1.4	+11.5	+ 0.3
Means.	-26.67	-23.45	-20.10	-23.07	-17.63	-16.70	-12.87	-11.44	-10.73	- 7.47	- 3.03	- 6.33	- 4.25	+ 8.44	+ 8.49

APRIL, 1873.

Time.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0^h	-0.5	-8.3	-5.6	- 8.2	- 1.5	-2.6	-2.8	- 9.8	- 0.4	+3.5	+2.5	+1.9	+ 5.5	+ 7.8	+ 8.5
1	2.5	8.3	6.4	10.6	- 0.6	1.8	-3.5	9.6	0.6	2.6	1.5	3.3	4.2	7.5	7.5
2	3.6	8.5	4.0	10.5	+ 6.3	2.5	+2.0	8.7	- 0.1	1.5	1.0	1.0	7.2	7.6	7.4
3	3.9	7.4	0.6	8.3	7.5	3.0	-3.2	9.1	+ 2.2	1.0	1.3	0.6	7.3	8.2	8.3
4	2.7	7.6	2.6	7.0	8.3	2.5	4.6	6.5	7.0	1.8	2.4	2.6	7.1	8.5	8.5
5	2.5	8.0	6.5	8.2	8.5	2.0	-0.6	10.7	8.3	1.5	2.4	1.4	8.0	8.0	8.2
6	2.2	8.5	5.1	7.4	8.4	1.6	+1.5	5.2	8.4	3.2	2.0	3.5	8.2	8.3	9.0
7	2.5	7.1	2.1	6.5	9.0	0.8	2.5	8.5	13.1	6.5	3.1	3.0	7.4	8.4	10.1
8	1.6	5.2	4.8	4.2	8.8	-0.1	3.3	- 0.1	17.5	7.3	4.2	2.0	7.3	8.2	12.3
9	1.4	4.3	2.7	1.5	9.2	+0.5	6.4	+ 3.4	22.0	7.3	3.0	2.3	7.9	8.1	13.3
10	1.0	3.5	3.5	- 1.3	9.5	1.2	7.1	- 3.2	21.6	7.4	4.0	2.2	10.2	9.1	14.4
11	1.2	2.6	5.0	+ 1.2	10.5	1.3	+0.3	3.0	20.4	7.2	4.8	2.1	8.0	9.0	14.6
Noon.	0.8	1.8	3.5	1.6	8.7	1.4	-0.5	2.3	19.5	7.5	5.0	2.5	8.1	10.9	14.5
1^h	3.0	1.5	3.4	3.3	10.1	2.6	1.7	2.5	18.6	8.6	3.6	3.6	8.6	10.8	10.7
2	3.4	1.8	2.5	5.1	10.1	3.0	2.3	3.8	20.0	9.1	4.2	4.8	9.3	9.7	12.3
3	3.2	1.2	2.3	+ 1.6	10.2	2.5	2.4	3.3	19.8	8.5	3.8	5.3	8.9	10.1	14.5
4	3.1	0.9	2.6	- 3.6	9.0	2.4	1.3	2.4	20.2	7.3	3.5	5.5	9.5	12.4	15.5
5	3.4	1.0	2.4	4.5	7.5	2.3	2.8	3.0	17.0	6.5	2.5	4.7	9.4	13.5	14.6
6	4.2	1.7	2.3	3.7	5.5	+3.7	6.0	4.6	13.3	6.0	1.0	5.2	10.1	12.7	12.9
7	4.8	2.5	4.4	4.2	5.7	-1.9	7.8	2.8	12.5	5.2	1.4	5.4	10.7	11.7	12.0
8	4.6	2.3	4.2	2.8	5.8	-2.7	8.5	4.9	8.1	4.2	+0.5	5.4	10.8	11.3	8.2
9	5.4	3.3	6.6	3.1	4.5	+1.6	8.6	4.6	6.1	4.1	-0.2	4.6	9.5	12.2	8.4
10	6.5	3.5	3.5	2.4	+ 1.0	+0.3	8.7	2.9	5.6	3.6	+0.4	5.0	8.6	14.5	7.0
11	-7.5	-5.0	-4.4	- 2.6	- 2.1	-3.4	-5.2	- 1.7	+ 6.2	+2.5	+0.2	+1.8	+ 8.3	+13.1	+ 7.1
Means.	-3.15	-4.41	-3.79	- 3.66	+ 6.66	-0.09	-1.98	- 4.58	+11.93	+5.16	+2.42	+3.45	+ 8.34	+10.07	+10.83

MAY, 1873.

Time.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0h	+ 5.5	+ 8.7	+17.6	+11.5	-0.4	+ 4.0	+ 5.3	+ 0.3	+ 4.8	+14.3	+13.0	+12.6	+ 8.8	+17.8	+27.0
1	4.0	9.6	18.5	11.6	+2.5	3.0	5.0	0.4	3.5	14.3	12.5	12.5	9.7	17.0	30.6
2	2.8	9.7	20.0	11.4	3.3	6.8	4.6	3.2	2.6	14.5	12.6	12.5	11.8	16.9	31.4
3	4.5	10.9	22.3	12.0	3.5	5.6	6.3	3.5	1.4	14.6	13.3	12.3	10.0	16.8	31.2
4	5.3	12.5	22.5	12.0	3.7	4.7	7.4	4.5	2.0	14.2	13.0	12.4	11.6	17.1	31.3
5	6.2	12.7	22.5	12.3	5.6	10.4	9.0	7.2	2.2	14.5	13.9	13.4	11.5	16.3	31.7
6	7.0	18.3	21.6	12.2	7.8	8.8	10.2	4.6	3.5	13.8	15.0	13.5	13.2	18.3	31.6
7	6.5	18.5	20.5	11.8	7.2	13.0	11.5	7.2	4.6	13.7	14.7	13.7	13.5	20.5	30.4
8	8.8	18.4	18.0	11.0	7.3	12.5	14.0	9.2	4.2	13.6	14.8	14.6	16.4	22.0	29.2
9	10.3	18.0	18.0	11.1	8.6	11.4	16.8	9.9	4.6	14.5	15.9	15.6	18.3	24.8	28.5
10	11.5	18.1	17.5	10.8	6.4	12.4	14.2	6.8	6.2	14.6	17.5	15.8	16.5	25.7	30.5
11	11.0	18.7	18.3	11.0	5.1	12.6	13.2	5.3	5.7	14.8	16.3	18.2	17.6	24.0	28.2
Noon.	10.2	18.5	18.2	10.4	6.0	10.4	11.1	6.0	5.6	16.2	15.3	18.3	20.5	24.1	28.6
1h	9.0	19.5	17.3	8.4	4.6	9.8	8.6	5.0	6.8	16.6	15.7	17.5	21.1	23.9	27.8
2	9.7	18.8	17.7	7.5	5.5	8.5	8.4	6.8	7.0	15.8	15.0	18.1	21.3	25.5	27.4
3	10.2	20.3	17.4	8.1	6.7	8.4	7.8	4.9	7.0	15.5	14.2	18.3	20.0	23.7	27.5
4	10.8	18.3	16.8	8.3	6.0	7.0	6.8	3.9	7.3	15.2	14.2	18.2	19.4	25.2	28.0
5	9.5	18.1	17.1	8.5	7.1	4.2	6.5	2.6	7.5	15.5	13.6	17.8	18.6	26.6	27.8
6	9.3	17.7	17.7	8.2	7.0	5.6	4.1	1.7	8.2	15.6	13.3	16.9	19.8	26.8	29.9
7	9.5	18.4	16.8	7.0	6.8	4.3	2.2	1.4	10.4	15.6	13.8	15.6	20.5	25.5	29.8
8	8.6	16.5	15.6	4.5	7.7	1.5	0.6	0.3	10.9	14.4	13.5	10.3	20.4	25.7	28.9
9	9.0	16.0	14.8	3.6	5.9	6.2	0.8	0.6	12.0	14.7	12.5	8.6	19.6	31.4	29.7
10	8.8	15.8	13.5	+ 2.1	6.0	7.5	0.1	0.5	12.1	14.0	12.7	6.9	19.5	31.2	29.2
11	+ 9.0	+15.7	+13.6	- 1.1	+5.8	+ 6.7	+ 2.4	+ 0.8	+10.2	+13.3	+12.8	+ 8.3	+19.7	+28.6	+27.3
Means.	+ 8.21	+15.82	+18.08	+ 8.93	+5.65	+ 7.72	+ 7.37	+ 4.03	+ 6.26	+14.74	+14.13	+14.25	+16.61	+23.56	+29.31

MAY, 1873.

Time.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0h	+25.2	+21.0	+23.5	+22.3	+24.4	+25.5	+28.8	+25.7	+22.2	+21.8	+26.1	+25.3	+21.3	+21.0	+16.5	+13.3
1	25.7	20.5	23.4	24.8	25.7	24.3	29.0	27.8	22.7	23.0	25.5	26.2	22.0	19.3	16.7	12.9
2	26.5	23.7	21.9	26.5	27.6	25.0	29.3	29.5	24.3	24.9	25.7	24.3	25.7	18.8	17.0	13.2
3	28.0	22.8	21.5	28.7	21.5	26.3	31.0	28.9	24.5	24.4	27.2	26.0	29.2	18.8	17.3	13.0
4	27.3	20.9	25.6	31.7	23.6	24.7	35.3	27.0	23.8	24.6	23.9	30.1	31.1	18.7	17.0	11.8
5	26.6	21.8	22.5	33.7	28.0	23.9	33.6	24.0	24.7	24.4	26.1	32.2	31.8	18.6	16.9	11.6
6	27.9	24.8	25.5	31.9	24.7	24.1	33.6	22.5	23.0	23.5	25.5	30.6	26.2	19.4	17.2	12.4
7	31.3	23.0	25.8	31.4	24.0	28.7	32.7	24.4	25.1	24.5	25.1	31.7	26.4	18.9	16.7	14.3
8	31.5	29.0	29.7	32.3	24.6	29.1	33.5	22.1	26.3	22.3	24.3	33.1	24.4	17.9	16.3	14.1
9	35.3	23.1	32.7	31.2	24.3	26.3	33.0	22.3	26.5	23.3	23.3	31.0	23.7	17.3	15.7	14.0
10	31.2	23.5	29.0	30.6	24.5	26.5	31.3	23.0	24.4	22.5	23.0	30.0	23.5	16.3	15.0	13.6
11	33.1	27.0	30.3	32.4	25.8	28.6	33.5	23.7	24.5	24.0	23.5	24.5	22.3	16.9	15.3	14.3
Noon.	32.0	26.8	31.6	32.6	25.7	29.1	33.3	27.4	24.7	23.3	23.4	28.0	23.0	17.9	14.3	15.2
1h	33.7	25.8	34.7	26.5	26.5	28.9	34.5	29.1	25.8	23.5	23.9	25.8	22.9	18.4	14.5	15.4
2	32.8	25.4	33.5	26.7	26.3	27.7	31.5	29.5	25.9	23.0	24.8	29.0	22.4	17.7	14.7	15.8
3	33.3	25.6	30.5	25.9	26.9	28.4	30.7	26.6	24.4	24.6	25.4	28.1	22.5	17.4	14.5	15.5
4	33.5	20.0	30.4	25.9	29.4	26.0	31.9	25.9	24.3	23.9	25.2	25.8	22.2	17.6	14.3	16.2
5	32.4	21.4	30.0	26.1	26.8	26.8	28.5	26.2	24.5	22.7	25.4	24.6	22.3	17.6	14.0	16.2
6	31.6	19.5	29.6	26.2	25.6	25.7	30.0	24.7	24.6	23.5	26.1	24.8	22.1	17.7	13.5	16.1
7	29.9	23.6	29.5	27.1	26.3	25.6	29.4	25.5	24.0	24.6	26.3	24.7	22.4	16.9	13.6	16.7
8	28.5	22.3	26.3	27.0	26.0	26.2	29.3	23.6	22.3	24.4	26.3	25.4	21.3	17.5	13.5	16.3
9	27.5	21.5	26.4	26.5	25.4	24.7	28.7	23.5	22.4	24.2	25.8	24.0	20.0	17.4	13.5	15.2
10	26.3	21.5	25.3	25.8	26.3	24.5	29.7	24.1	22.9	24.1	25.3	23.1	19.6	16.9	12.8	15.4
11	+25.2	+21.2	+23.9	+24.4	+26.1	+26.1	+28.8	+22.8	+22.5	+23.5	+25.6	+22.6	+18.6	+16.6	+13.0	+15.6
Means.	+29.85	+23.15	+27.63	+28.26	+25.67	+26.36	+31.29	+25.83	+24.18	+23.69	+25.11	+27.12	+23.62	+17.98	+15.16	+14.50

From the preceding record it appears that January was the coldest month, with a mean temperature of —29°.34. The lowest temperature noted is —42°.5, occurring at 6[h] p. m. on February 20. The absolute maximum during the seven months we spent at Polaris House occurred May 16th and 22d at 9[h] and 4[h] a. m., respectively. The lowest temperature recorded by the Kane expedition during the same period of time is —66°.4, occurring February 5, 1854; and the minimum as observed by Hayes is —45°.4 on January 25, 1861, at 6[h] a. m., which latter value differs but 2°.9 from our own minimum.

The following table contains the absolute maxima and minima, as observed from November 1, 1872, till June 1, 1873:

Absolute maxima and minima observed at Polaris House in 1872 and 1873.

Months.	Maximum.	Minimum.	Day of maximum.	Hour of maximum. A. M.	Hour of maximum. P. M.	Day of minimum.	Hour of minimum. A. M.	Hour of minimum. P. M.
	°	°						
November	+20. 5	—17. 6	4	4	....	19	4 and 5	....
December	+15. 5	—29. 7	25	2 and 3	....	31	9	....
January	— 8. 9	—41. 8	5	10	....	30	10 and 11	....
February	— 0. 3	—42. 5	5	....	7	20	....	6
March	— 2. 5	—40. 8	24	....	1	5	9	....
April	+22. 0	—31. 5	24	9	....	1 2	 2	10 ....
May	+35. 3	— 1. 1	16 22	9 4	....	4	....	11

The two following tables give the observed daily and hourly mean temperatures extracted from the preceding record:

Daily means of temperature observed at Polaris House.

Date.	November, 1872.	December, 1872.	January, 1873.	February, 1873.	March, 1873.	April, 1873.	May, 1873.
	°	°	°	°	°	°	°
1	— 3. 55	— 8. 99	—27. 82	—29. 43	—18. 53	—26. 67	+ 8. 21
2	+ 9. 81	12. 20	31. 23	23. 46	32. 63	23. 45	15. 82
3	14. 62	14. 02	31. 23	20. 16	36. 04	20. 10	18. 08
4	16. 55	8. 44	31. 48	17. 06	31. 09	23. 07	8. 93
5	6. 76	9. 95	17. 52	7. 67	36. 78	17. 63	5. 65
6	1. 04	11. 54	21. 65	15. 01	31. 73	16. 70	7. 72
7	+ 0. 17	7. 47	14. 53	14. 98	27. 54	12. 87	7. 37
8	— 3. 79	6. 41	14. 12	20. 92	21. 96	11. 44	4. 03
9	2. 55	7. 78	17. 60	18. 43	16. 11	10. 73	6. 26
10	5. 28	13. 41	17. 28	18. 55	22. 13	7. 47	14. 74
11	10. 63	11. 92	31. 15	18. 04	23. 15	3. 03	14. 13
12	—12. 85	17. 85	34. 73	31. 69	15. 78	6. 33	14. 25
13	+ 6. 90	18. 04	31. 36	31. 49	26. 40	— 4. 25	16. 64
14	9. 70	14. 28	33. 15	32. 21	26. 85	+ 8. 44	23. 56
15	6. 93	10. 08	30. 86	34. 83	25. 57	+ 8. 49	29. 31
16	+ 5. 08	9. 15	31. 51	30. 83	22. 15	— 3. 15	29. 85
17	— 7. 32	9. 09	35. 88	32. 65	19. 39	4. 41	23. 15
18	14. 36	5. 21	31. 73	33. 22	31. 86	3. 79	27. 63
19	16. 32	5. 94	31. 58	32. 78	19. 88	— 3. 66	28. 26
20	9. 42	4. 93	28. 09	38. 23	13. 58	+ 6. 66	25. 67
21	— 6. 70	— 6. 21	34. 63	36. 87	20. 33	— 0. 09	26. 36
22	+ 2. 54	+ 3. 89	34. 06	27. 61	26. 70	1. 98	31. 29
23	— 0. 18	4. 84	35. 33	15. 22	25. 48	— 4. 58	25. 83
24	4. 58	4. 08	37. 80	16. 14	19. 49	+11. 93	21. 18
25	5. 91	+ 5. 18	35. 31	27. 29	24. 42	5. 16	23. 69
26	3. 98	— 5. 73	37. 98	28. 97	28. 43	2. 42	25. 11
27	3. 23	5. 92	28. 85	29. 43	25. 78	3. 45	27. 12
28	5. 81	11. 42	29. 20	—24. 07	28. 20	8. 34	23. 62
29	10. 17	19. 27	34. 89	....	27. 75	10. 07	17. 98
30	— 8. 29	22. 88	35. 65	....	28. 89	+10. 83	15. 16
31	....	—27. 94	—21. 51	....	—27. 79	....	+14. 50

Hourly means of temperature observed at Polaris House.

Time.	November, 1872.	December, 1872.	January, 1873.	February, 1873.	March, 1873.	April, 1873.	May, 1873.
	°	°	°	°	°	°	°
0^h	— 2.33	— 7.48*	—29.52	—26.13	— 25.97	— 8.41	+[17.60]
1	2.33	7.90	29.53	26.34	25.64	[8.69]	17.85
2	2.31	9.15	29.62	26.35	26.07	8.43	18.68
3	2.29	9.06	29.48	25.83	26.21	8.10	18.98
4	2.04	8.87	29.68	25.10	25.91	7.47	19.43
5	1.95	9.14	29.73	25.18	25.77	6.82	20.03
6	1.81	9.06	29.81	24.95	25.63	5.50	20.10
7	1.70	9.21	29.63	24.65	25.11	4.10	20.72
8	1.39	9.35	29.67	24.13	24.28	2.71	21.15
9	1.39	9.21	29.29	24.03*	23.96	1.58	21.30*
10	1.57	9.27	29.41	24.23	23.61	1.30*	20.76
11	1.34	9.39	29.30	24.43	23.33	1.49	20.99
Noon.	1.25	9.34	29.30	25.11	22.90*	1.61	21.25
1^h	1.17*	9.48	29.38	25.34	23.08	2.02	21.06
2	1.33	[9.71]	29.29	25.43	23.12	1.89	20.99
3	1.49	9.47	29.00	25.28	23.59	2.34	20.82
4	1.58	9.61	29.04	25.31	23.85	3.29	20.29
5	1.54	9.54	29.17	25.18	24.65	3.47	19.92
6	1.64	9.50	28.88*	25.27	25.48	4.28	19.81
7	1.76	9.40	28.90	25.83	26.24	5.15	19.83
8	2.32	9.41	29.18	[26.52]	26.93	5.74	19.25
9	2.32	9.04	28.89	25.91	26.98	6.15	18.81
10	2.39	9.03	[29.99]	26.15	27.06	6.48	18.50
11	—[2.57]	— 8.93	—29.55	—26.08	—[27.14]	6.71	18.02
Means.	— 1.83	— 9.15	—29.34	—25.37	— 25.11	— 4.74	+ 19.84

NOTE.—The maxima are denoted by asterisks, while the minima are placed between brackets.

ANNUAL FLUCTUATION OF TEMPERATURE AT POLARIS HOUSE.

Of the seven months' observations given in the preceding register, six, comprising winter and spring, were selected and submitted to analytical treatment.

The means of the actual months and those of the equi-intervals are as follows:

	December.	January.	February.	March.	April.	May.
	°	°	°	°	°	°
Actual months........	—9.15	—29.34	—25.37	—25.11	—4.74	+19.84
Equi-intervals.........	—8.38	—29.31	—25.47	—25.21	—4.60	+19.08
Mean temperature of half year = — 12°.31.						

The analytical elements and expression are as follows:

n	a	b	B	tan C
1	+21.7733	—2.2747	21.8918	— 9.5720 = 180° — 84° 2′ 10″ = 95° 57′ 50″
2	+. 9.1200	+0.09237	9.1204	+98.7334 .... = 89 25 20
3	+ 0.5015	0	0.5015	+ ∞ .... = 90 00 00

$$T = 21.8918 \sin(x.60^\circ + 95^\circ 57' 50'') + 9.1204 \sin(2x.60 + 89^\circ 25' 20'') + 0.5015 \sin(3x.60 + 90^\circ) - 12.317.$$

The monthly means thus computed and the observed values are given in the following table:

Normal months.	Observed.	Computed.	△ O. — C.
	°	°	°
December	— 8.38	— 8.38	±0.00
January	—29.31	—29.31	0.00
February	—25.47	—25.47	0.00
March	—25.21	—25.21	0.00
April	— 4.60	— 4.60	0.00
May	+19.08	+19.08	±0.00
Winter	—21.05	—21.05	....
Spring	— 3.58	— 3.58	....
Greatest difference between any observed and computed value = 0°.002.			

As the annual fluctuation of the temperature at Polaris House was discussed in detail when treating this subject of our more northern station, no further remark will be needed.

DIURNAL FLUCTUATION.

As the time at our disposal was rather limited, and as the observations extend over a short period only, it was thought sufficient to take the bihourly means of the day and to use the same as phases of the daily period.

The elements of the analytical expression are as follows:

n	a_n	b_n	B_n	C_n
				° ′ ″
1	—0.549	—0.568	+0.789	224 02 26
2	+0.109	—0.114	+0.157	136 21 09
3	—0.025	+0.093	+0.096	345 14 58

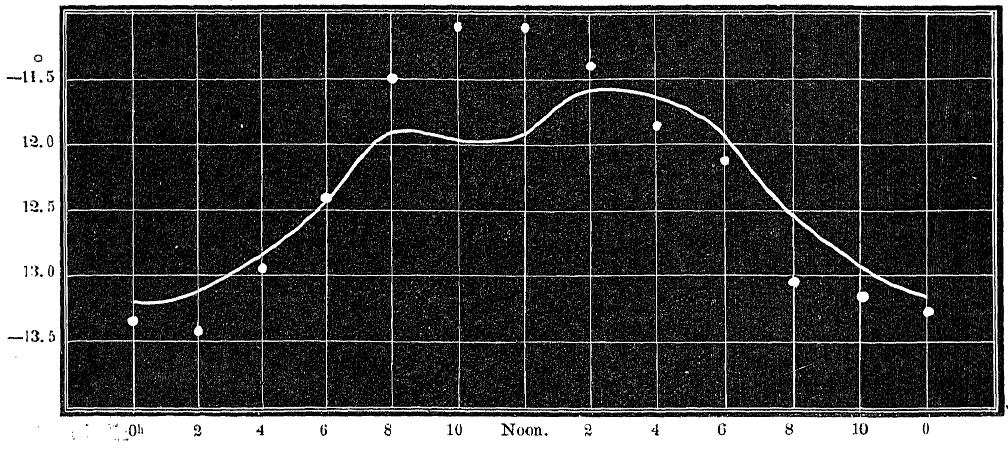
Consequently, the analytical expression becomes—

$$T = -12.317 + 0.789 \sin (x + 224° 02' 26'') + 0.157 \sin (2x + 136° 21' 09'')$$
$$+ 0.096 \sin (3x + 345° 14' 58'')$$
$$x = 30°, 60°, \ldots\ldots$$

The following table gives the diurnal fluctuation of the temperature during the winter-half:

Time.	Observed temperature.	Computed temperature.	Difference, O. — C.
	°	°	°
0^h	—13.32	—13.14	—0.18
2	13.49	13.12	0.37
4	12.93	12.80	—0.13
6	12.47	12.47	±0.00
8	11.50	11.87	+0.37
10	11.17	11.92	0.75
Noon.	11.17	11.80	0.63
2^h	11.41	11.60	+0.19
4	11.80	11.62	—0.18
6	12.27	11.96	0.31
8	13.07	12.57	0.50
10	—13.20	—12.93	—0.27
Means.	—12.317	—12.317	±0.00

The following diagram represents the diurnal fluctuation of the temperature during the same period:



The following table contains the mean maxima and minima of the seven months in question; also, their range and the time of their respective occurrence, as derived from the table headed "Hourly Means:"

Daily extremes, range, and hours of maxima and minima from November, 1872, *till June*, 1873.

Months.	Maximum.	Minimum.	Range.	Time of—	
				Max.	Min.
	°	°	°	*h.*	*h.*
November, 1872.......	– 1.17	– 2.57	1.40	1 p. m....	11 p. m....
December, 1872........	– 7.48	– 9.71	2.23	0 a. m....	2 p. m....
January, 1873..........	–28.88	–29.99	1.11	6 p. m....	10 p. m....
February, 1873..........	–24.03	–26.52	2.49	9 a. m....	8 p. m....
March, 1873.............	–22.90	–27.14	4.24	Noon......	11 p. m....
April, 1873...............	– 1.30	– 8.69	7.39	10 a. m....	1 a. m....
May, 1873................	+21.30	+17.60	3.70	9 a. m....	0 a. m....

As the daily range of Polaris House was considered in one of the preceding paragraphs, further details in regard to this subject will be superfluous. We shall now proceed to the diurnal fluctuation during the seasons.

As the diurnal range of every month was investigated in a similar way, as stated in the course of the Polaris Bay observations, the diurnal range of the seasons was not properly computed. It was thought sufficiently accurate for our present purpose to continue the computed bihourly means of March, April, and May for the representation of spring, and those of December, January, and February for the winter-curve. These curves, with those relating to the seasons of Polaris Bay, will be given hereafter in the discussion of the dew-point.

The values obtained for spring, in the above-mentioned manner, are as follows:

	0h	**2**	**4**	**6**	**8**	**10**	Noon.	**2h**	**4**	**6**	**8**	**10**	Mean.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Observed......	–5.59	–5.27	–4.65	–3.68	–1.95	–1.39	–1.09	–1.34	–2.29	–3.32	–4.48	–5.01	–3.34
Computed.....	–5.45	–5.38	–4.76	–3.51	–2.12	–1.23	–1.05	–1.44	–2.27	–3.37	–4.40	–5.08	–3.34
Diff. O.—C.....	–0.14	+0.11	+0.11	–0.17	+0.17	–0.16	–0.04	+0.10	–0.02	+0.05	–0.08	+0.07	±0.00

Probable error of a single representation = ± 0°.09
Probable error of mean................. = ± 0°.03

By means of the curve, we find that the temperature rises till about half an hour past meridian when it obtains its maximum of $-1^\circ.35$, the observed maximum of $-1^\circ.09$ occurring at noon. Both the observed and computed minima are reached at midnight. The maximum occurs almost at the same time as at Polaris Bay, the minimum two hours earlier. The range, as derived from the computed values, is $4^\circ.40$, being by $0^\circ.16$ smaller than that of Polaris Bay.

The following table furnishes the values for the winter-curve:

	0^h	2	4	6	8	10	Noon.	2^h	4	6	8	10	Mean.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Observed......	−21.04	−21.71	−21.22	−21.27	−21.05	−20.97	−21.25	−21.48	−21.32	−21.22	−21.70	−21.39	−21.29
Computed.....	−20.73	−21.00	−21.46	−21.61	−21.48	−21.58	−21.84	−21.75	−21.31	−21.02	−20.98	−20.86	−21.29
Diff. O.—C....	− 0.31	− 0.71	+ 0.24	+ 0.34	+ 0.43	+ 0.61	+ 0.59	+ 0.27	− 0.01	− 0.20	− 0.72	− 0.53	± 0.00

Probable error of a single representation $= \pm 0^\circ.20$
Probable error of mean................ $= \pm 0^\circ.06$

A comparison of the diurnal range of temperature at this place with that at Polaris Bay shows that the theoretical curve agrees better with the observed value than in the former instance. We see the hour of the maximum to be the same at both stations; but while at Polaris Bay the computed minimum was reached at 6^h p. m., the minimum in this instance occurs at noon. The range equals $1^\circ.11$, being $0^\circ.33$ greater than at the more northern station.

The analytical elements and expressions used in the computation of the diurnal range for the six months, from which winter and spring were derived, are as follows:

DECEMBER.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	+0.311	+0.427	+0.528	36 1 10
2	+0.182	+0.235	+0.298	37 12 14
3	+0.019	+0.198	+0.199	5 35 38

$$T = -9.148 + 0.528 \sin (x + 36^\circ\ 1'\ 10'') + 0.298 \sin (2x + 37^\circ\ 12'\ 14'') + 0.199 \sin (3x + 5^\circ\ 35'\ 38'')$$
$$x = 30^\circ, 60^\circ, \ldots$$

JANUARY.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	−0.709	−0.343	+0.379	154 54 59
2	+0.062	−0.027	+0.069	113 27 28
3	−0.031	−0.011	+0.033	250 21 28

$$T = -29.366 + 0.379 \sin (x + 154^\circ\ 54'\ 59'') + 0.069 \sin (2\ \ + 113^\circ\ 27'\ 28'') + 0.033 \sin (3x + 250^\circ\ 21'\ 28'')$$
$$x = 30^\circ, 60^\circ, \ldots$$

FEBRUARY.

n	a_n	b_n	B_n	C_n
				° ′
1	−0.918	+0.061	+0.917	303 49
2	+0.014	−0.312	+0.309	237 38
3	−0.096	+0.193	+0.223	60 00

$$T=-25.389+0.917 \sin (x+303^{\circ}\ 49') +0.309 \sin (2\ x+237^{\circ}\ 38') + 0.223 \sin (3\ x+60^{\circ})$$
$$x=30^{\circ}, 60^{\circ}, \ldots$$

MARCH.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	−1.634	−0.826	+1.831	243 10 19
2	−0.136	+0.614	+0.629	347 30 10
3	−0.108	+0.272	+0.293	338 20 38

$$T=-25.069+1.831 \sin (x+243^{\circ}\ 10'\ 19'') +0.629 \sin (2\ x+347^{\circ}\ 30'\ 10'') +0.293 \sin (3\ x+338^{\circ}\ 20'\ 38'')$$
$$x=30^{\circ}, 60^{\circ}, \ldots$$

APRIL.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	−2.725	−2.130	+3.458	231 59 13
2	+0.633	−0.305	+0.836	111 22 16
3	+0.025	+0.070	+0.075	19 33 37

$$T=-4.759+3.458 \sin (x+231^{\circ}\ 59'\ 13'')+0.836 \sin (2\ x+111^{\circ}\ 22'\ 16'') +0.075 \sin (3\ x+19^{\circ}\ 33'\ 37'')$$
$$x=30^{\circ}, 60^{\circ}, \ldots$$

MAY.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	−1.393	−1.748	+1.508	247 24 19
2	−0.105	−0.258	+0.278	202 5 19
3	+0.059	−0.148	+0.159	158 13 55

$$T=+19.816+1.508 \sin (x+247^{\circ}\ 24'\ 19'') +0.278 \sin (2\ x+202^{\circ}\ 5'\ 19'') +0.159 \sin (3\ x+158^{\circ}\ 13'\ 55'')$$
$$x=30^{\circ}, 60^{\circ}, \ldots$$

The observed and computed values during the six months in question compare as follows:

Time.	DECEMBER. Observed temperature.	DECEMBER. Computed temperature.	DECEMBER. Diff., O. — C.	JANUARY. Observed temperature.	JANUARY. Computed temperature.	JANUARY. Diff., O. — C.	FEBRUARY. Observed temperature.	FEBRUARY. Computed temperature.	FEBRUARY. Diff., O. — C.
	°	°	°	°	°	°	°	°	°
0^h	−7.48	−8.17	+0.69	−29.52	−29.40	−0.12	−26.13	−26.22	+0.09
2	9.15	8.32	−0.83	29.62	29.61	−0.01	26.35	25.93	−0.42
4	8.87	9.09	+0.22	29.68	29.76	+0.08	25.10	25.51	+0.41
6	9.06	9.42	+0.36	29.81	29.78	−0.03	24.95	24.73	−0.22
8	9.35	9.12	−0.23	29.67	29.63	−0.04	24.13	24.11	−0.02
10	9.27	9.09	−0.18	29.41	29.43	+0.02	24.23	24.36	+0.13
Noon.	9.34	9.53	+0.19	29.30	29.32	+0.02	25.11	25.13	+0.02
2^h	9.71	9.75	+0.04	29.29	29.24	−0.05	25.42	25.37	−0.05
4	9.61	9.56	−0.05	29.04	29.10	+0.06	25.31	25.27	−0.04
6	9.50	9.47	−0.03	28.88	28.96	+0.08	25.27	25.51	+0.24
8	9.41	9.41	±0.00	29.18	28.99	−0.19	26.52	26.13	−0.39
10	−9.03	−8.85	−0.18	−28.99	−29.17	+0.18	−26.15	−26.40	+0.25
Means..	−9.148	−9.148	±0.00	−29.366	−29.366	±0.00	−25.389	−25.389	±0.00

Time.	MARCH. Observed temperature.	MARCH. Computed temperature.	MARCH. Diff., O. — C.	APRIL. Observed temperature.	APRIL. Computed temperature.	APRIL. Diff., O. — C.	MAY. Observed temperature.	MAY. Computed temperature.	MAY. Diff., O. — C.
	°	°	°	°	°	°	°	°	°
0^h	−25.97	−26.16	+0.19	−8.41	−8.10	−0.31	+17.60	+17.90	+0.30
2	26.07	25.89	−0.18	8.43	8.64	+0.21	18.68	18.39	−0.29
4	25.91	26.03	+0.12	7.47	7.74	+0.27	19.43	19.49	+0.06
6	25.63	25.54	−0.09	5.50	5.34	−0.16	20.10	20.34	+0.24
8	24.28	24.39	+0.11	2.71	2.74	+0.03	21.15	20.76	−0.39
10	23.61	23.46	−0.15	1.30	1.28	−0.02	20.75	21.04	+0.29
Noon.	22.90	23.05	+0.15	1.61	1.28	−0.33	21.25	21.18	−0.07
2^h	23.12	23.04	−0.08	1.90	2.18	+0.28	20.99	20.90	−0.09
4	23.85	23.83	−0.02	3.29	3.34	−0.05	20.29	20.35	+0.06
6	25.48	25.53	+0.05	4.28	4.43	+0.15	19.81	19.84	+0.03
8	26.93	26.94	+0.01	5.74	5.47	−0.27	19.24	19.22	−0.02
10	−27.06	−26.95	−0.11	−6.48	−6.68	+0.20	+18.50	+18.38	−0.12
Means..	−25.069	−25.069	±0.00	−4.759	−4.759	±0.00	+19.816	+19.816	±0.00

It will be seen that in December both the computed and observed curves attain their maximum again at midnight, as we had occasion to notice in our examination of the winter-curves of the two localities, the minimum being reached at 2^h p. m. The diurnal range, as derived from the computed values, is 1°.58, while the other is 0°.65 greater.

In January the observed and computed curves pass through the maximum of −28°.88 and −28°.96, respectively, at 6^h p. m., while the minimum occurs in both instances at 6^h a. m. The diurnal range, derived from the computed values, is 0°.80, the other being 0°.93.

In February the observed and computed curves pass through the maximum of −24°.13 and −24°.11, respectively, at about 8^h a. m., the observed minimum of −26°.52 being reached at 8^h p. m., and the corresponding computed value of −26°.40 between 9^h and 10^h p. m. The diurnal range derived from the observed values is 2°.39, while that deduced from those computed is by 0°.10 less.

In March the observed and computed maxima occur at noon and 2^h p. m., respectively, while in both instances the minimum is reached at 10^h p. m. The diurnal range of this month, as deduced from the computed values, is 3°.91, the one observed being 4°.16.

As the sun was circumpolar from the 17th of April, the diurnal march of the temperature during this month is influenced accordingly. The curve shows a decided rise from midnight till 10^h a. m., when both the observed and computed maxima are reached. The minimum occurs at 2^h a. m. The daily range is about twice as great as during the last month, having risen from 3°.91 to 7°.36.

The curve of May assumes a more regular character than we have seen hitherto. The time of occurrence of the maxima is noon, while the lowest temperature is reached at midnight. The daily range was 3°.58 less than during the last month.

THERMIC WIND-ROSE.

In investigating the relation of the atmospheric temperature to the direction of the wind, the same method was used as stated in the discussion of this subject in the course of the Polaris Bay observations.

The analytical expression for the wind-rose was found as follows:

$$T=+0.26+1.95 \sin (x+216° 25') +0.65 \sin (2 x+23° 28')$$

The following table contains the representation of the effect of the winds on the temperature of the air during the winter, + denoting an elevating, — a depressing, effect:

Months.	N.	NE.	E.	SE.	S.	SW.	W.	NW.	Calm.	Means.
	°	°	°	°	°	°	°	°	°	°
December	+2.5	−1.7	+0.3	....	....	+3.6	....	+0.2	−4.9	−8.4
January	−2.4	−3.2	−1.0	....	+3.8	+4.3	....	....	−1.3	−29.3
February	−5.9	−3.0	....	....	+4.3	+4.4	....	....	+0.2	−25.5
March	....	−5.2	−2.1	....	+3.2	+5.3	....	....	−3.3	−25.1
April	....	+0.9	....	+0.4	+0.4	+3.1	....	....	−3.6	−4.6
May	+3.1	+1.2	+0.2	−1.7	−2.5	−3.9	+3.0	....	+0.6	+19.1
Half-year	−0.4	−1.9	−0.8	−0.9	+1.7	+2.8	+1.4	+0.2	−2.1	−12.3
Computed	−0.6	−1.1	−1.6	−0.6	+1.7	+2.8	+1.6	±0.0	−2.2	....
Difference	+0.2	−0.8	+0.8	−0.3	±0.0	±0.0	−0.2	+0.2	+0.1	±0.0
Winter	−1.9	−2.6	−0.2	....	+2.7	+4.1	....	+0.1	−2.0	....
Spring	+1.0	−1.0	−0.6	−0.4	+0.4	+1.5	+1.0	....	−2.1	....

It appears that the N., NE., E., and SE. winds are cold, while the S., SW., W., and NW. winds have a contrary effect. Calms usually depress the temperature. It must be borne in mind, however, that the observations extend over too short a period of time to give any reliable result. Schott finds for the winter half-year at Port Foulke that the N., SE., and SW. winds are warm, while northeasters and calms depress the temperature. As the E., S., W., and SW. winds were of rather rare occurrence at Port Foulke, their effect on the temperature could not be ascertained during the winter. We noticed, both at Polaris Bay and Polaris House, that the N. and NE. winds were warm at certain times. At the former locality this was found to be the case during September and October, 1871, and formed frequently a subject of discussion. Most likely the wind was blowing over a body of open water, of greater or less extent, to the north of us (though not an open Polar sea), for while on a sledge-journey in September, 1871, we observed a dark water-sky north of Hall's Land, and our late commander noticed the same fact a month later. At Polaris House the north winds were warm during the end of October, but we refrain

from offering any explanation of this fact, as we noticed in every instance that the upper clouds had a southern direction; consequently, the elevating effect of these winds on the temperature of the air could not be due to a southerly current of air passing overhead above the northerly. A glance at the above table also demonstrates that the east winds were warm during December, which could be noticed, too, during the preceding month, which is not embraced in our table. A very striking effect of a warm easter was felt in the latter part of October; but as our instruments were not in working order at the time, on account of the general derangement resulting from the loss of the vessel, there are no definite data on hand. It seems to us that at certain times the eastlerly winds in Greenland show a similar character to the "Foehn" in Switzerland; and since the second German Polar Expedition discovered very high mountain-ranges in the eastern part of this arctic continent, we do not hesitate to pronounce such winds as described hereafter to be true Foehns. The following passage, relating to this subject, is a translation from Rink's admirable work on the geography and statistics of Greenland:

"The great changes of weather seem to be mostly produced by the warm wind blowing from E. or SE. over the ice-covered interior. This wind, which may be looked for in every month during the year, and along the whole coast, always produces a rise of temperature, which is especially perceptible in winter, when the thermometer may suddenly rise 20° R. It seems to come from the Atlantic, and to produce a compensation between the milder temperature of the latter and the cold regions in West Greenland under the same latitudes. We cannot expect this warm aerial current to come from the south, in which direction the coasts of Labrador and Newfoundland are situated, but we may conclude that the next warmer body of air will be met with toward the E. or SE. Considering the phenomenon in such a manner, we can best explain the origin of this warm wind, which apparently comes from the great Ice Desert.

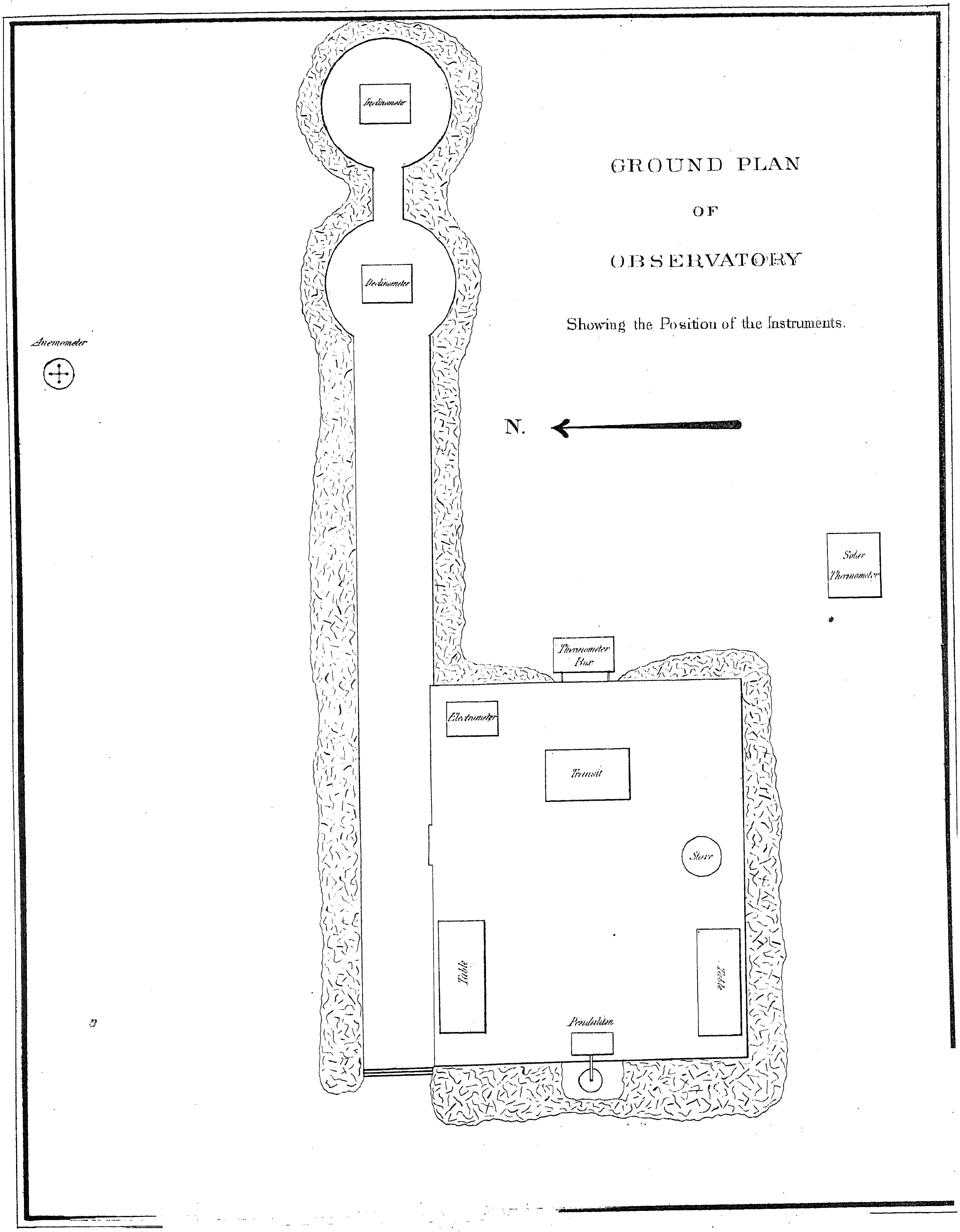
"The approach of this warm southeaster is generally marked by the greatest depression the barometer ever shows. It is not a rare occurrence for the column of mercury to fall below 27 inches, and if it gets down as low as $26^{in}.10$ or lower, hurricane-like gusts of wind may be looked for. At the same time the sky is slightly overcast, especially with long oval clouds of such a singular bluish appearance that it is scarcely possible to be mistaken in considering these as precursors of the storm. These clouds appear to hang very high, and never touch the summits of the mountains like those accompanying other storms. Meanwhile, it is dead calm, both at sea and on land; and both in summer and winter the air becomes suffocating, owing to the sudden rise of temperature. The atmosphere exhibits a remarkable transparancy, and distant land, which under ordinary circumstances is invisible, can be plainly distinguished. Suddenly, the gale begins to rage on the higher mountain-chains, the snow drifts over the highlands, and if an observer be stationed on the ice covering the fiord, near the steep precipices north of Omenak, he can hear the roaring of the storm, while on the ice where he stands the air is still perfectly calm. Sometimes it blows for two or three days or longer, but not constantly, as the wind occasionally falls to a light breeze, blowing now and then in heavy gusts. Sometimes, although seldom, the beginning of the southeaster is accompanied by rain-showers, even in January and February. Then the clouds begin to disappear, and while the storm lasts the sky is perfectly clear. The extreme dryness of this wind is very remarkable; the thermometer, ranging between +3° and 4° R., sinks to 0° if moistened, and the snow-covering of the land diminishes visibly, although not a drop of water is seen trickling from it."

In a foot-note Rink remarks that Professor Petersen holds the opinion that this warm wind might possibly be produced by the returning trade-wind, which, however, does not seem to us to be the case, as, according to Rink's own statement, the wind assumes a direction due northeast in the district of Julianehaab.

The following table, derived directly from the table headed "Hourly means of temperature observed at Polaris House," might be found useful:

Corrections to be applied to any hourly observation taken at Polaris House to obtain the mean temperature of the day.

Time.	November.	December.	January.	February.	March.	April.	May.
	°	°	°	°	°	°	°
0^h	+0.50	—1.67	+0.18	+0.76	+0.86	+3.67	+2.24
1	0.50	—1.25	0.19	0.97	0.53	3.95	1.99
2	0.48	±0.00	0.28	0.98	0.96	3.69	1.16
3	0.46	—0.09	0.14	+0.46	1.10	3.36	0.86
4	0.21	0.28	0.34	—0.27	0.80	2.73	+0.41
5	+0.12	0.01	0.39	0.19	0.66	2.08	—0.19
6	—0.02	—0.09	0.47	0.42	+0.52	+0.76	0.26
7	0.13	+0.06	0.29	0.72	±0.00	—0.64	0.88
8	0.44	0.20	+0.33	1.24	—0.83	2.03	1.31
9	0.44	0.06	—0.05	1.34	1.15	3.16	1.46
10	0.26	0.12	+0.07	1.14	1.50	3.44	0.92
11	0.49	0.24	—0.04	0.94	1.78	3.74	1.15
Noon.	0.58	0.19	—0.04	0.26	2.21	3.13	1.41
1^h	0.66	0.33	+0.04	—0.03	2.03	2.72	1.22
2	0.50	0.56	—0.05	+0.06	1.99	2.85	1.15
3	0.34	0.32	0.34	—0.09	1.52	2.40	0.98
4	0.25	0.46	0.30	0.06	1.26	1.45	0.45
5	0.29	0.39	0.17	0.19	—0.46	1.27	—0.08
6	0.19	0.35	0.46	—0.10	+0.37	—0.46	+0.03
7	—0.07	0.25	0.44	+0.46	1.13	+0.41	0.01
8	+0.49	+0.26	0.16	1.15	1.82	1.00	0.59
9	0.49	—0.11	—0.45	0.54	1.87	1.41	1.03
10	0.56	0.12	+0.65	0.78	1.95	1.74	1.34
11	+0.74	—0.22	+0.21	+0.71	+2.03	+1.97	+1.82


GROUND PLAN
OF
OBSERVATORY
Showing the Position of the Instruments.
Inclinometer
Declinometer
Anemometer
N.
Solar Thermometer
Thermometer Box
Electrometer
Transit
Stove
Table
Table
Pendulum

HYGROMETRICAL OBSERVATIONS.

1 H O

HYGROMETRICAL OBSERVATIONS.

RECORD AND DISCUSSION OF PSYCHROMETRICAL OBSERVATIONS MADE AT POLARIS BAY.

INTRODUCTORY.

As far as we know, none of the various arctic expeditions ever attempted to make psychrometrical observations during the cold season of the year, or, if the attempt was made, the results were so unsatisfactory that the experiments were in a short time abandoned. Still, it is not impossible to make good hygrometrical observations, even at the lowest temperatures, provided the observer uses the necessary precautions and exercises due patience. According to our experience, no better instruments are required than two sensitive mercurial thermometers, or, if the temperature be very low, a spirit-psychrometer. At the same time, it might be well to have one of Regnault's dew-point instruments, to be enabled to test at once the accuracy of the results obtained. Decidedly, however, the simple psychrometer is to be preferred to the more complicated apparatus; for, under certain circumstances, as, for instance, during snow-storms, when the snow is drifting, the latter is of but little use, and requires about ten times as long to prepare it for an observation as is needed to read the dry and wet bulb. Besides, at very low temperatures, when the percentage of relative humidity of the air is small, the use of Regnault's instrument is attended with great difficulties; and we are in doubt whether the results obtained therewith are more accurate than those derived from the readings of the psychrometer. If the temperature is below —30° F., the precipitation upon the polished-silver cylinder takes place so slowly that much practice is required to determine accurately the moment when the first ice-crystals form. Often, indeed, we had to make use of a large lens of considerable focal length to fix this moment; for the centers of crystallization, when first forming, are almost microscopic. But even in employing lenses of long focus (we used one of about six inches diameter and four inches focal length), the heat radiated by the observer seriously affects the accuracy of the result. Perhaps this inconvenience may be overcome by using a telescope of considerable light, and a magnifying-power of about ten or fifteen times; also, we should recommend, if future observations should be made, to combine an aspirator with the Regnault apparatus, since, at low temperatures, it is extremely unpleasant to force the air through the silver vessel by means of a mouth-piece for five or eight minutes. The moisture contained in the warm breath soon condenses in the rubber tube connecting the mouth-piece with the cylinder, and obstructs the tube so that but very little air can pass through it. We hardly need to mention that, if an aspirator be used, it should be filled with alcohol rather than water, or with some other fluid that does not freeze at low temperatures. The dew-point instrument used in the course of our observations was made by Green. The immersed thermometer was divided from —80° to +110° F., and had a length of 13.3 inches. The other one, giving the temperature of the air, measured 8.9 inches; its scale-division extending from —60° to +110° F. Both instruments had cylindrical bulbs filled with uncolored spirits.

The following record contains the observations made at Polaris Bay; the hourly series beginning November 6, 1871. For convenience, the reductions are given opposite the psychrometer-readings.

The first column contains the time; the second, the reading of the dry bulb; the third, the reading of the wet bulb; the column headed R. H., the relative humidity; the column headed F. V., the force of vapor; and the column headed D. P., the dew-point.

For temperatures above 32° F., the Smithsonian Meteorological Tables by Guyot were used in the reduction; the reduction of readings below the freezing-point was made by means of the tables given at the end of this volume.

NOVEMBER, 1871.

Day.	6.					7.					8.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+14.8	+14.0	85.4	0.0726	+11.3	+12.3	+11.9	92.1	0.0700	+10.4	+12.4	+11.8	83.3	0.0670	+ 9.6
1	14.8	14.0	85.4	.0726	11.3	13.5	13.2	96.2	.0766	12.5	11.3	10.8	89.9	.0651	8.8
2	14.8	14.0	85.4	.0726	11.3	10.8	10.2	87.8	.0621	7.8	7.8	7.6	95.4	.0593	6.8
3	14.8	14.0	85.4	.0726	11.3	10.1	9.7	91.5	.0630	8.0	4.8	4.3	87.2	.0471	+ 1.9
4	14.8	14.0	85.4	.0726	11.3	11.5	11.1	92.0	.0672	10.0	1.8	1.1	79.7	.0376	− 3.0
5	14.8	14.0	85.4	.0726	11.3	10.3	9.8	89.4	.0622	7.5	6.8	6.1	83.3	.0494	+ 2.9
6	14.8	14.0	85.4	.0726	11.3	9.6	9.1	89.3	.0601	7.5	6.6	5.8	80.7	.0474	2.0
7	14.8	14.0	85.4	.0726	11.3	10.2	9.7	89.5	.0619	7.8	6.5	5.9	85.4	.0500	3.1
8	14.8	14.0	85.4	.0726	11.3	11.1	10.4	85.8	.0624	8.0	5.1	4.7	89.9	.0492	2.7
9	14.8	14.0	85.4	.0726	11.3	11.1	10.3	83.7	.0615	7.6	5.2	4.4	79.7	.0439	+ 0.5
10	12.8	12.0	84.5	.0655	9.0	10.0	9.3	85.4	.0595	6.9	2.2	1.5	79.9	.0384	− 2.6
11	11.4	10.4	79.0	.0553	5.5	9.7	8.9	82.8	.0559	5.5	3.2	2.1	69.7	.0349	− 4.7
Noon.	10.3	9.5	82.5	.0545	5.0	9.5	8.8	84.8	.0550	5.9	8.2	7.0	72.8	.0460	+ 1.3
1h	10.5	9.8	84.6	.0550	5.2	9.6	8.9	84.9	.0571	6.0	8.7	7.4	71.1	.0458	1.2
2	13.2	12.5	86.2	.0652	9.0	9.8	9.2	87.4	.0592	7.0	10.1	9.2	81.0	.0557	5.4
3	12.8	12.0	84.5	.0655	9.0	10.4	9.9	89.5	.0624	7.9	9.1	8.0	75.8	.0499	3.0
4	14.3	13.8	90.4	.0665	9.3	8.9	8.3	86.8	.0569	5.8	+ 8.1	+ 7.0	75.0	.0472	+ 1.8
5	14.5	13.8	86.5	.0723	9.6	8.3	7.6	84.2	.0535	4.6	− 0.6	− 0.9	90.2	.0382	− 2.7
6	14.8	14.2	88.9	.0743	11.8	10.3	9.8	89.5	.0521	7.8	+ 5.0	+ 4.5	87.3	.0476	+ 2.1
7	15.1	14.6	90.7	.0740	11.9	10.5	10.0	89.6	.0527	8.0	6.9	6.2	83.4	.0497	3.0
8	15.4	14.9	91.1	.0788	13.3	11.2	10.6	87.9	.0633	8.3	9.0	8.1	80.2	.0525	4.2
9	14.5	14.1	92.6	.0769	12.4	12.0	11.3	86.2	.0643	8.6	8.7	8.0	84.4	.0545	5.0
10	14.1	13.7	87.0	.0729	11.4	12.1	11.4	86.2	.0646	8.7	8.5	7.7	82.0	.0526	4.2
11	+14.0	+13.6	92.5	0.0758	+12.1	+12.5	+11.9	88.3	0.0674	+ 9.7	+ 7.3	+ 6.7	85.9	0.0522	+ 3.9
Means.			86.46	0.0699	+10.31			87.95	0.0621	+ 7.83			82.22	0.0492	+ 2.52

NOVEMBER, 1871.

Day.	9.					10.					11.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+10.3	+ 9.1	74.6	0.0519	+ 3.9	+11.1	+10.1	79.6	0.0571	+ 6.0	+ 7.5	+ 7.2	93.0	0.0570	+ 5.9
1	9.7	9.0	85.0	.0574	6.1	11.0	10.2	83.6	.0597	6.7	7.3	6.9	90.5	.0549	5.1
2	10.4	9.9	89.6	.0624	7.9	11.4	11.6	84.3	.0641	8.5	7.7	7.0	82.8	.0518	3.9
3	11.7	10.9	84.0	.0618	7.8	12.2	11.3	84.2	.0631	8.2	7.3	6.6	82.6	.0529	3.5
4	12.3	11.3	80.4	.0609	7.4	12.0	11.1	84.0	.0625	8.0	5.0	4.2	79.5	.0434	0.1
5	11.4	10.6	83.8	.0609	7.5	12.8	12.0	84.5	.0655	9.0	4.5	3.8	81.7	.0436	+ 0.1
6	12.6	12.0	88.3	.0678	9.8	13.1	12.2	82.8	.0651	8.9	4.0	3.3	81.4	.0425	− 0.5
7	13.0	12.2	84.6	.0662	9.3	13.1	12.2	82.8	.0651	8.9	4.6	3.9	81.7	.0438	0.1
8	13.1	12.3	84.7	.0666	9.4	12.0	11.2	84.1	.0631	8.2	4.1	3.4	81.5	.0427	0.4
9	12.3	11.9	92.2	.0698	10.4	12.7	11.9	84.4	.0652	8.9	3.3	2.6	80.9	.0409	1.4
10	13.2	12.6	88.6	.0699	10.5	12.4	11.7	86.3	.0655	9.0	3.1	2.1	72.4	.0362	3.9
11	13.4	13.0	92.4	.0737	11.6	11.3	10.3	79.7	.0577	6.2	2.5	1.7	77.4	.0381	2.8
Noon.	12.1	11.7	92.1	.0691	10.3	11.3	10.4	81.7	.0592	6.7	1.7	0.8	74.8	.0346	4.7
1h	11.0	10.3	85.8	.0612	7.5	9.0	8.4	86.8	.0568	5.8	2.0	1.0	71.2	.0339	5.2
2	8.5	8.2	93.2	.0598	7.0	8.5	8.0	88.8	.0569	5.9	3.8	2.8	73.3	.0378	2.9
3	7.1	6.2	78.8	.0474	1.9	7.8	7.1	83.8	.0521	4.0	2.3	1.5	77.2	.0372	3.2
4	9.7	9.2	89.2	.0604	7.2	7.1	6.2	78.9	.0472	2.0	1.6	0.9	79.5	.0371	3.3
5	11.3	10.6	85.9	.0621	7.8	7.1	6.2	78.9	.0472	2.0	2.1	1.3	77.0	.0368	3.5
6	11.2	10.2	79.6	.0574	6.1	6.8	6.0	81.0	.0473	2.5	2.3	1.8	83.2	.0342	5.0
7	7.4	6.9	88.2	.0538	4.7	7.1	6.8	92.8	.0559	5.5	+ 1.1	+ 0.2	74.2	.0334	5.5
8	9.1	8.4	84.6	.0557	5.4	7.5	6.8	90.5	.0546	5.0	− 1.4	− 1.4	100.0	.0406	5.4
9	10.9	10.0	81.5	.0580	6.3	7.5	7.0	88.3	.0541	4.8	+ 1.2	+ 0.3	74.3	.0336	5.4
10	10.2	9.8	91.6	.0632	8.2	8.7	7.9	82.1	.0530	4.4	2.5	1.2	82.9	.0403	1.5
11	+11.2	+10.4	83.7	0.0603	+ 7.3	+ 8.1	+ 7.7	90.8	0.0571	+ 6.0	+ 2.7	+ 1.6	69.1	0.0340	− 5.4
Means.			85.93	0.0616	+ 7.55			84.36	0.0581	+ 6.30			80.16	0.0409	− 2.15

Day.	NOVEMBER, 1871.														
	12.					13.					14.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^{h}	+ 2.6	+ 1.8	78.2	0.0397	— 1.8	+ 1.4	+ 0.0	58.9	0.0272	— 9.8	— 7.6	— 8.7	53.6	0.0162	—19.0
1	3.3	2.3	72.6	.0367	3.6	+ 0.2	— 0.9	66.1	.0289	8.6	8.3	9.0	68.0	.0204	15.7
2	2.5	1.9	82.9	.0403	1.5	— 3.1	3.7	78.3	.0296	8.1	7.5	8.3	65.4	.0202	15.9
3	3.9	2.9	73.4	.0381	2.8	4.5	5.3	69.4	.0247	12.0	6.4	7.3	63.4	.0205	15.5
4	4.4	3.4	73.9	.0392	2.2	4.9	6.0	58.0	.0201	15.9	5.8	6.5	71.5	.0239	12.5
5	4.3	3.8	82.2	.0305	— 7.5	4.7	5.7	76.1	.0244	13.9	5.7	6.5	67.5	.0229	13.4
6	4.4	3.7	81.7	.0434	0.0	4.5	5.3	69.4	.0247	12.0	6.2	6.9	71.1	.0234	12.9
7	4.5	3.6	76.5	.0408	— 1.4	3.9	4.6	73.4	.0270	10.1	4.8	5.5	72.5	.0254	11.3
8	5.1	4.1	74.5	.0409	— 1.2	2.5	3.9	52.2	.0201	15.9	5.7	6.4	71.6	.0241	12.4
9	5.3	4.4	77.2	.0427	+ 0.5	2.9	4.0	61.0	.0233	12.9	5.7	6.5	67.5	.0229	13.4
10	5.5	4.7	80.0	.0447	0.7	7.6	8.4	65.2	.0200	16.0	6.3	7.2	63.6	.0206	15.3
11	5.8	4.9	77.7	.0440	0.3	7.1	7.7	74.3	.0232	13.2	8.7	9.5	63.5	.0185	17.4
Noon.	5.6	4.9	82.6	.0464	1.5	6.8	7.6	66.4	.0212	14.9	10.6	11.3	65.7	.0173	18.8
1^{h}	6.8	5.9	78.5	.0466	1.6	5.4	6.4	61.6	.0207	15.6	10.4	11.3	56.4	.0150	21.4
2	7.8	6.9	79.4	.0493	2.8	4.6	5.7	58.6	.0207	15.5	10.3	11.1	60.9	.0164	19.8
3	5.5	4.8	82.5	.0461	+ 1.3	5.2	6.1	64.9	.0222	13.9	10.3	11.2	56.6	.0151	21.3
4	5.1	3.9	69.3	.0380	— 2.9	6.6	7.4	66.6	.0215	14.6	11.2	12.0	60.0	.0153	21.1
5	6.2	5.1	73.3	.0422	— 0.5	8.5	9.2	67.8	.0199	16.0	11.3	12.0	65.0	.0165	19.8
6	5.3	4.6	82.3	.0456	+ 1.1	7.7	8.3	73.7	.0223	13.9	11.6	12.4	59.2	.0148	21.7
7	4.8	4.1	81.9	.0444	0.5	7.6	8.5	62.0	.0187	17.4	11.5	12.1	69.8	.0175	18.7
8	4.0	3.4	84.0	.0437	+ 0.3	10.0	11.6	50.8	.0134	23.3	11.6	12.4	59.2	.0148	21.7
9	2.1	1.7	88.6	.0422	— 0.6	7.0	7.7	70.3	.0221	14.1	12.3	13.0	63.0	.0153	21.1
10	1.0	0.1	74.1	.0332	5.7	6.6	8.2	31.0	.0104	27.8	12.3	13.1	57.8	.0140	22.7
11	+ 1.2	+ 0.1	70.2	0.0320	— 6.5	— 8.9	—10.6	24.2	0.0067	—31.3	—12.3	—13.1	57.8	0.0140	—22.7
Means.			79.06	0.0413	— 1.15			62.39	0.0213	—15.00			63.73	0.0185	—17.73

Day.	NOVEMBER, 1871.														
	15.					16.					17.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^{h}	—12.2	—13.0	58.0	0.0141	—22.6	—15.5	—16.6	55.0	0.0168	—26.2	— 2.7	— 3.5	71.5	0.0276	— 9.6
1	12.3	12.9	68.2	.0165	19.8	14.4	15.0	65.0	.0143	22.4	2.9	3.7	71.3	.0272	9.8
2	14.5	15.1	64.9	.0142	22.5	14.3	14.9	65.2	.0144	22.3	3.2	3.9	74.1	.0281	9.1
3	15.5	16.2	58.6	.0119	25.7	13.7	14.7	42.9	.0100	28.7	0.6	1.6	68.4	.0287	8.8
4	17.5	18.1	60.8	.0112	26.7	12.9	13.8	51.4	.0121	25.3	1.5	2.2	75.8	.0311	7.0
5	13.8	14.7	49.6	.0112	26.8	13.8	14.6	54.8	.0124	25.0	6.5	7.2	70.8	.0229	13.3
6	15.2	15.7	70.6	.0147	21.9	12.3	13.0	63.0	.0153	21.1	6.8	7.6	66.4	.0212	14.8
7	15.0	15.9	46.3	.0099	28.8	10.7	11.8	46.6	.0121	25.4	7.5	8.3	65.4	.0202	15.9
8	14.7	15.6	47.2	.0102	28.2	9.7	10.8	49.4	.0135	23.6	7.6	8.6	57.8	.0175	18.7
9	13.5	14.5	43.5	.0216	28.5	10.7	11.5	60.5	.0159	20.4	5.5	6.2	71.8	.0244	12.1
10	11.6	12.5	54.0	.0136	23.3	12.3	13.0	63.0	.0153	21.1	5.6	6.1	79.9	.0269	10.1
11	11.6	12.0	80.0	.0199	16.1	10.2	11.1	56.8	.0152	21.2	6.9	7.5	74.5	.0236	12.7
Noon.	11.6	12.3	64.4	.0161	20.2	9.9	10.8	57.4	.0157	20.7	6.1	6.7	75.3	.0248	11.8
1^{h}	11.5	12.0	75.0	.0188	17.2	10.6	11.5	55.9	.0148	21.8	4.6	5.4	69.2	.0245	12.0
2	14.6	15.2	65.8	.0141	22.6	8.2	8.9	68.2	.0205	15.6	3.1	3.8	74.2	.0282	9.0
3	15.4	16.1	57.8	.0120	25.6	6.8	7.7	62.6	.0199	16.1	2.2	2.9	75.1	.0298	8.0
4	15.4	16.1	57.8	.0120	25.6	7.6	8.4	65.2	.0201	16.0	— 0.6	1.4	75.4	.0314	6.8
5	16.6	17.4	49.2	.0097	29.2	5.8	6.5	71.5	.0239	12.5	+ 0.2	— 0.8	69.2	.0303	7.7
6	17.6	18.4	46.8	.0087	30.9	6.7	7.4	71.6	.0226	13.5	1.4	+ 0.4	70.5	.0326	6.0
7	17.5	18.2	55.4	.0100	28.7	5.9	6.7	67.3	.0225	13.7	1.4	0.4	70.5	.0326	6.0
8	18.4	18.9	66.1	.0116	26.2	4.6	5.5	66.0	.0231	13.2	1.7	0.9	76.7	.0360	3.9
9	16.5	16.9	75.1	.0146	22.0	4.1	4.8	74.2	.0266	10.2	1.6	0.7	73.4	.0344	4.8
10	16.5	16.9	75.1	.0146	22.0	2.9	3.7	71.3	.0272	9.9	1.9	1.1	76.9	.0364	3.7
11	—15.6	—16.5	45.0	0.0093	—30.0	— 3.2	— 3.9	74.1	0.0281	— 9.1	+ 1.6	+ 0.8	76.6	0.0358	— 4.0
Means.			62.16	0.0134	—27.61			61.66	0.0180	—18.90			72.11	0.0282	— 9.40

Day.	NOVEMBER, 1871.														
	18.					19.					20.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+ 0.9	+ 0.1	75.9	0.0343	− 5.0	− 2.9	− 3.9	66.1	0.0246	−11.9	− 9.2	− 9.8	72.3	0.0204	−15.5
1	0.7	0.0	78.7	.0353	4.4	2.5	3.4	69.6	.0265	10.3	9.7	10.3	71.7	.0198	16.2
2	1.1	0.0	67.2	.0307	7.4	3.2	4.0	71.0	.0267	10.2	10.1	9.9	63.1	.0179	18.0
3	1.2	0.2	70.3	.0322	6.3	3.7	4.7	63.6	.0233	13.0	10.6	11.6	50.8	.0135	23.3
4	1.6	0.8	76.6	.0358	4.0	5.5	6.4	64.6	.0218	14.3	11.5	12.3	59.4	.0150	21.5
5	0.5	0.0	84.7	.0376	3.1	5.5	6.4	64.6	.0218	14.3	13.0	13.8	56.4	.0132	23.8
6	0.6	0.1	84.8	.0378	3.0	8.2	9.0	64.0	.0192	16.8	15.2	16.0	52.0	.0110	27.0
7	+ 0.7	+ 0.2	84.9	.0380	2.9	8.2	9.0	64.0	.0192	16.8	16.7	17.6	53.7	.0083	27.8
8	− 0.2	− 0.7	84.3	.0363	3.8	9.4	9.9	77.1	.0214	14.6	17.5	18.2	55.4	.0100	28.7
9	+ 0.3	0.5	75.3	.0331	5.9	9.5	10.3	62.4	.0175	18.7	17.6	18.4	46.8	.0087	30.9
10	0.1	− 0.6	52.3	.0238	12.5	9.5	10.3	62.4	.0175	18.7	−20.1	−20.8	47.4	0.0076	−30.2
11	1.5	+ 0.6	73.2	.0342	4.9	9.7	10.4	66.6	.0184	17.6	......	......	......	......	......
Noon.	0.4	0.1	90.9	.0401	1.7	9.7	10.4	66.6	.0184	17.6	......	......	......	......	......
1h	1.1	0.3	76.1	.0347	4.6	9.7	10.4	66.6	.0184	17.6	......	......	......	......	......
2	+ 1.0	+ 0.2	76.0	.0345	4.8	9.7	10.4	66.6	.0184	17.6	......	......	......	......	......
3	− 1.2	− 1.7	83.3	.0344	4.9	9.7	10.4	66.6	.0184	17.6	......	......	......	......	......
4	3.0	3.5	82.5	.0310	7.0	9.7	10.4	66.6	.0184	17.6	......	......	......	......	......
5	− 0.9	1.7	75.1	.0309	7.2	9.7	10.4	66.6	.0184	17.6	......	......	......	......	......
6	+ 0.3	− 0.5	75.8	.0332	5.8	9.7	10.4	66.6	.0184	17.6	......	......	......	......	......
7	+ 1.1	+ 0.4	79.0	.0361	3.9	9.7	10.4	66.6	.0184	17.6	......	......	......	......	......
8	− 2.3	− 2.7	86.2	.0336	5.3	9.7	10.4	66.6	.0184	17.6	......	......	......	......	......
9	3.1	3.5	85.8	.0321	6.4	9.7	10.4	66.6	.0184	17.6	......	......	......	......	......
10	3.2	3.7	82.3	.0306	7.4	10.0	10.6	71.4	.0193	16.6	......	......	......	......	......
11	− 3.7	− 4.4	74.6	0.0273	− 9.8	−10.2	−10.7	76.3	0.0203	−15.7	......	......	......	......	......
Means.			76.49	0.0337	− 5.50			67.07	0.0201	−16.06			51.88	0.0102	−27.31

Day.	NOVEMBER, 1871.														
	21.					22.					23.				
Hour.	D	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	−20.1	−20.8	47.4	0.0076	−30.2	−20.1	−20.8	47.4	0.0076	−30.2	−20.1	−20.8	47.4	0.0076	−30.2
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
3	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
4	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
5	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
6	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
7	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
8	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
9	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
10	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
11	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Noon.	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
1h	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
3	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
4	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
5	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
6	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
7	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
8	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
9	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
10	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
11	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Means.			47.40	0.0076	−30.20			47.40	0.0076	−30.20			47.40	0.0076	−30.20

NOVEMBER, 1871.

Day.	24.					25.					26.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	—20.1	—20.8	47.4	0.0076	—30.2	—22.3	—22.8	58.4	0.0083	—31.5	—18.3	—19.0	52.0	0.0092	—30.0
1	......	......	......	......	......	22.8	23.3	57.4	.0080	32.2	19.3	20.0	49.0	.0084	31.4
2	......	......	......	......	......	23.3	23.7	64.6	.0089	30.9	19.6	20.3	48.4	.0081	30.8
3	......	......	......	......	......	23.8	24.4	46.2	.0061	36.0	20.5	21.2	46.6	.0074	33.4
4	......	......	......	......	......	23.4	24.2	28.6	.0040	40.4	21.8	22.5	43.0	.0063	35.6
5	......	......	......	......	......	23.4	24.2	28.6	.0040	40.4	23.5	24.3	28.4	.0040	40.6
6	......	......	......	......	......	24.1	24.5	63.0	.0084	31.8	21.8	22.6	34.6	.0052	37.9
7	......	......	......	......	......	24.1	24.5	63.0	.0084	31.8	20.1	20.9	40.3	.0064	34.9
8	......	......	......	......	......	24.3	24.7	62.6	.0082	32.0	18.9	19.7	43.6	.0075	33.1
9	......	......	......	......	......	24.6	24.9	72.1	.0091	30.2	19.2	19.9	49.3	.0084	31.3
10	......	......	......	......	......	24.8	25.2	61.6	.0078	32.7	19.9	20.6	47.8	.0078	30.4
11	......	......	......	......	......	25.7	26.5	19.0	.0025	44.8	17.5	18.3	47.0	.0088	30.7
Noon.	......	......	......	......	......	26.2	26.7	49.9	.0057	36.8	17.2	18.0	48.0	.0091	30.2
1^h	......	......	......	......	......	26.4	27.0	39.0	.0043	39.8	16.8	17.6	48.8	.0095	29.5
2	......	......	......	......	......	25.3	26.0	31.0	.0038	40.9	16.6	17.4	49.2	.0097	29.2
3	......	......	......	......	......	25.1	25.8	37.1	.0045	39.2	15.2	16.0	52.0	.0110	27.0
4	......	......	......	......	......	25.0	25.6	43.2	.0053	37.5	15.4	16.2	51.6	.0108	27.3
5	22.6	23.2	49.4	0.0069	34.3	24.3	24.8	54.4	.0069	34.2	16.7	17.5	49.0	.0096	29.4
6	22.0	22.8	33.8	.0050	38.3	24.5	25.0	54.0	.0068	34.4	16.3	17.1	49.8	.0100	28.8
7	23.3	23.7	64.6	.0089	30.9	24.7	25.4	34.0	.0043	39.8	17.5	18.3	47.0	.0088	30.7
8	23.3	23.7	64.6	.0089	30.9	19.3	19.8	63.6	.0107	27.5	17.2	17.9	55.1	.0103	28.3
9	22.2	22.7	58.6	.0084	31.3	20.3	20.9	54.2	.0086	31.1	18.1	18.8	52.6	.0094	29.7
10	22.5	23.1	49.7	.0069	34.1	19.3	20.0	63.0	.0106	27.7	19.3	19.9	56.3	.0095	29.4
11	—21.4	—22.0	52.0	0.0078	—32.5	—18.7	—19.0	79.0	0.0137	—23.1	—18.5	—19.2	51.4	0.0091	—30.4
Means.			49.11	0.0076	—31.07			51.15	0.0076	—34.45			47.53	0.0085	—31.25

NOVEMBER, 1871.

Day.	27.					28.					29.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	—18.9	—19.7	43.6	0.0075	—33.1	—19.5	—19.8	78.2	0.0130	—24.0	+ 7.9	+ 7.0	79.4	0.0495	+ 2.9
1	18.5	19.6	47.5	.0083	31.7	19.5	20.0	63.0	.0106	27.7	7.9	7.0	79.4	.0495	2.9
2	18.5	19.4	47.5	.0083	31.7	20.3	20.7	69.3	.0111	26.8	7.9	7.0	79.4	.0495	2.9
3	18.5	19.2	51.4	.0091	30.4	20.3	20.7	69.3	.0111	26.8	7.9	7.0	79.4	.0495	2.9
4	19.4	20.0	56.0	.0095	29.5	20.9	21.6	45.8	.0071	34.2	7.9	7.0	79.4	.0495	2.9
5	19.8	20.6	41.2	.0067	34.4	16.8	17.3	68.4	.0131	24.1	7.9	7.0	79.4	.0495	2.9
6	22.4	23.2	32.2	.0047	38.7	15.6	16.2	63.6	.0130	24.1	7.9	7.0	79.4	.0495	2.9
7	22.7	23.5	31.0	.0046	39.3	12.0	12.7	63.6	.0158	20.5	7.9	7.0	79.4	.0495	2.9
8	24.2	24.9	36.2	.0046	39.0	9.5	10.0	77.0	.0213	14.8	7.9	7.0	79.4	.0495	2.9
9	25.0	25.7	32.5	.0041	40.4	6.5	7.5	60.0	.0193	16.7	7.9	7.0	79.4	.0495	2.9
10	25.8	26.3	51.1	.0060	36.2	5.8	6.3	79.7	.0269	10.1	7.9	7.0	79.4	.0494	2.9
11	25.5	26.1	51.7	.0061	35.9	5.1	5.6	80.4	.0276	9.6	7.9	7.0	79.4	.0494	2.9
Noon.	25.5	26.0	52.0	.0061	35.8	4.2	4.7	81.3	.0290	8.5	5.9	4.3	70.3	.0396	2.0
1^h	24.2	24.8	45.4	.0058	35.4	3.0	3.5	82.5	.0310	7.0	6.1	4.9	70.7	.0305	1.4
2	24.2	24.8	45.4	.0058	35.4	1.5	2.0	83.0	.0338	5.3	5.1	4.3	79.6	.0437	+ 0.4
3	23.1	23.7	47.9	.0065	35.0	5.2	5.6	83.4	.0287	8.6	4.9	4.0	76.9	.0418	— 0.8
4	22.8	23.5	39.5	.0057	37.0	4.6	5.3	72.7	.0257	10.9	4.9	4.0	76.9	.0418	0.8
5	22.8	22.6	34.6	.0052	37.9	— 1.2	— 1.8	80.2	.0330	5.9	4.4	3.2	68.5	.0365	3.8
6	21.2	21.9	45.2	.0068	31.5	+ 2.7	+ 1.9	77.6	.0381	2.8	4.5	3.3	68.6	.0367	3.7
7	21.5	21.9	68.1	.0102	28.4	10.4	9.7	85.5	.0695	6.6	3.8	2.7	70.6	.0364	3.9
8	20.9	24.5	46.0	.0061	36.1	10.4	9.7	85.5	.0695	6.6	2.0	0.9	68.3	.0326	6.2
9	20.9	21.6	45.8	.0071	31.2	7.9	7.0	79.4	.0495	2.9	+ 0.7	+ 0.2	84.9	.0380	2.9
10	17.7	18.5	46.4	.0086	31.1	7.9	7.0	79.4	.0495	2.9	— 0.5	— 2.0	52.2	.0222	13.9
11	—19.2	—19.7	63.9	0.0108	—27.3	+ 7.9	+ 7.0	79.4	0.0495	— 2.9	— 1.3	— 3.0	44.4	0.0179	—18.2
Means.			45.92	0.0068	—34.60			74.51	0.0290	—13.76			74.36	0.0421	— 0.75

Day.	NOVEMBER, 1871.					DECEMBER, 1871.									
	30.					1.					2.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	− 1.4	− 2.5	63.5	0.0259	−10.7	−10.4	−11.1	66.0	0.0176	−18.6	−12.7	−13.1	78.9	0.0186	−17.5
1	1.5	2.4	70.2	.0284	9.0	12.1	12.7	70.0	.0167	19.5	12.7	13.1	78.9	.0186	17.5
2	2.3	3.0	75.0	.0296	8.1	11.4	12.0	70.0	.0176	18.5	12.7	13.1	78.9	.0186	17.5
3	5.6	6.6	61.4	.0204	15.7	10.6	11.4	61.0	.0160	20.2	8.2	8.8	74.0	.0217	14.3
4	4.6	5.7	58.6	.0207	15.5	10.8	11.5	66.0	.0173	19.2	8.5	9.2	68.0	.0202	16.0
5	5.5	6.5	61.5	.0205	15.6	10.4	11.2	61.0	.0163	19.9	5.6	6.3	72.7	.0242	12.2
6	5.5	6.5	61.5	.0205	15.6	11.3	12.0	65.0	.0165	19.8	5.9	6.6	72.4	.0238	12.6
7	4.8	5.9	58.2	.0203	15.8	13.6	14.3	61.4	.0139	23.0	6.5	7.2	71.8	.0229	13.3
8	4.6	5.7	58.6	.0207	15.5	14.3	15.0	60.0	.0132	23.9	7.5	8.2	70.0	.0214	14.6
9	6.0	6.8	67.2	.0224	13.8	14.9	15.6	58.8	.0125	24.8	8.3	9.0	68.0	.0204	15.7
10	6.6	7.4	67.6	.0215	14.5	14.6	15.3	59.4	.0128	24.3	9.0	10.1	50.8	.0143	22.3
11	5.8	6.6	67.4	.0227	13.5	15.1	15.7	58.6	.0124	24.9	9.0	10.1	50.8	.0143	22.3
Noon.	8.3	8.5	91.2	.0266	10.3	17.3	17.5	87.5	.0163	20.0	9.0	10.1	50.8	.0143	22.3
1h	10.0	10.3	86.0	.0231	13.0	12.7	13.1	78.9	.0186	17.5	9.0	10.1	50.8	.0143	22.3
2	8.1	8.7	87.0	.0578	6.2	12.7	13.1	78.9	.0186	17.5	9.0	10.1	50.8	.0143	22.3
3	8.5	9.1	86.2	.0635	6.4	12.7	13.1	78.9	.0186	17.5	9.0	10.1	50.8	.0143	22.3
4	8.9	9.6	85.4	.0692	6.7	12.7	13.1	78.9	.0186	17.5	9.0	10.1	50.8	.0143	22.3
5	11.3	11.5	90.0	.0228	13.5	12.7	13.1	78.9	.0186	17.5	9.0	10.1	50.8	.0143	22.3
6	10.8	11.5	86.2	.0649	8.8	12.7	13.1	78.9	.0186	17.5	9.0	10.1	50.8	.0143	22.3
7	10.8	10.9	95.0	.0247	11.8	12.7	13.1	78.9	.0186	17.5	9.0	10.1	50.8	.0143	22.3
8	9.6	10.1	76.9	.0212	14.9	12.7	13.1	78.9	.0186	17.5	9.0	10.1	50.8	.0143	22.3
9	7.8	8.5	84.7	.0560	5.5	12.7	13.1	78.9	.0186	17.5	9.0	10.1	50.8	.0143	22.3
10	8.4	9.2	83.1	.0568	5.8	12.7	13.1	78.9	.0186	17.5	9.0	10.1	50.8	.0143	22.3
11	− 9.9	−10.6	85.9	0.0621	− 7.8	−12.7	−13.1	78.9	0.0186	−17.5	− 9.0	−10.1	50.8	0.0143	−22.3
Means.			75.31	0.0343	−11.42			71.37	0.0168	−18.80			60.20	0.0171	−19.31

Day.	DECEMBER, 1871.														
	3.					4.					5.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	− 9.7	−11.2	31.4	0.0082	−31.5	− 9.3	− 9.8	77.2	0.0215	−14.4	+ 8.8	+ 7.9	80.0	0.0520	+ 4.0
1	9.2	9.8	73.0	.0204	15.5	7.6	8.3	70.0	.0213	14.8	11.2	10.3	81.7	.0589	6.6
2	9.4	10.0	72.0	.0202	15.8	7.0	7.6	75.4	.0234	12.8	13.7	12.8	83.1	.0672	9.6
3	9.1	9.7	73.0	.0205	15.3	7.2	7.8	75.2	.0231	13.1	13.6	12.8	84.9	.0683	10.0
4	8.6	9.4	64.0	.0186	17.3	7.6	8.2	74.0	.0225	13.6	16.1	15.1	82.6	.0741	11.8
5	8.2	9.0	64.0	.0192	16.8	6.5	7.2	71.8	.0229	13.3	15.4	14.7	87.6	.0766	12.6
6	9.5	10.1	72.0	.0200	15.9	7.4	7.9	78.2	.0240	12.2	14.6	13.9	87.2	.0734	11.6
7	10.5	11.3	61.0	.0162	21.0	7.6	8.3	70.5	.0213	14.8	13.9	13.1	85.0	.0693	10.3
8	10.4	11.2	61.0	.0163	19.9	6.4	7.1	70.9	.0230	13.2	12.8	11.8	80.7	.0625	7.9
9	10.7	11.6	56.0	.0147	21.9	5.5	6.1	75.9	.0257	11.1	11.9	10.5	72.1	.0537	4.5
10	11.5	12.1	70.0	.0174	18.6	6.8	7.4	74.6	.0237	12.5	10.2	9.1	76.7	.0531	4.4
11	11.7	12.3	70.0	.0172	19.0	6.5	7.0	79.0	.0255	11.2	7.6	6.9	83.8	.0515	3.8
Noon.	12.3	12.9	69.0	.0165	19.8	6.9	7.4	78.6	.0249	11.6	5.8	4.9	77.7	.0440	+ 0.4
1h	12.3	13.0	63.0	.0153	21.1	6.5	7.3	66.7	.0217	14.4	5.1	4.1	74.5	.0409	− 1.3
2	12.3	13.0	63.0	.0153	21.1	6.8	7.4	74.6	.0257	11.1	3.7	2.8	75.8	.0390	2.3
3	12.9	13.5	67.5	.0158	20.7	6.5	7.1	74.9	.0242	12.2	2.0	1.2	76.9	.0366	3.6
4	12.1	12.7	70.0	.0167	19.5	6.2	6.7	79.3	.0260	10.7	1.5	+ 0.2	61.9	.0288	8.7
5	11.5	12.3	59.0	.0150	21.6	6.2	6.8	75.2	.0246	11.9	+ 0.3	− 0.6	72.3	.0319	6.6
6	11.4	11.9	75.1	.0189	17.2	6.9	7.3	83.3	.0262	10.6	− 0.4	1.3	72.7	.0305	7.6
7	12.1	12.8	65.0	.0155	20.9	6.1	6.5	83.8	.0274	9.6	2.4	3.5	62.0	.0243	12.4
8	12.1	12.9	58.0	.0142	22.4	6.4	6.9	79.1	.0257	11.0	4.3	5.1	69.8	.0350	11.6
9	11.5	12.3	59.0	.0150	21.6	4.9	5.4	80.6	.0279	9.3	3.8	4.9	60.1	.0218	14.3
10	10.1	10.7	72.0	.0192	16.8	4.1	4.7	77.3	.0279	9.4	3.9	5.0	60.0	.0217	14.4
11	− 9.8	−10.5	67.0	0.0184	−17.7	− 1.7	− 2.5	73.0	0.0393	− 8.3	− 3.9	− 4.7	70.3	0.0256	−11.1
Means.			64.79	0.0169	−19.50			75.78	0.0250	−10.29			75.81	0.0471	+ 0.15

DECEMBER, 1871.

Day.	6.					7.					8.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	— 4.4	— 5.5	59.0	0.0211	—15.2	—15.4	—16.1	57.8	0.0120	—25.5	—23.6	—24.4	28.2	0.0039	—40.8
1	4.5	5.6	58.8	.0209	15.3	16.1	16.8	56.4	.0113	26.6	24.7	25.1	61.8	.0079	32.6
2	3.6	4.3	60.7	.0235	12.9	17.0	17.5	68.0	.0129	24.2	23.7	24.4	37.2	.0050	38.3
3	3.6	4.3	62.6	.0235	12.9	17.3	17.7	73.6	.0139	23.0	24.8	25.4	43.8	.0054	37.2
4	3.6	4.3	64.5	.0235	12.9	22.7	23.3	49.1	.0068	34.4	25.1	25.6	52.8	.0065	35.3
5	3.6	4.3	66.4	.0235	12.9	23.2	23.7	56.6	.0077	32.6	25.4	25.9	52.2	.0062	35.7
6	2.7	3.6	68.4	.0262	10.6	19.9	20.8	33.6	.0054	36.9	23.4	24.0	47.0	.0063	35.4
7	1.3	2.4	63.6	.0261	10.8	19.6	20.6	27.5	.0044	39.4	23.2	23.8	47.6	.0065	35.2
8	4.3	5.3	62.7	.0224	13.9	23.6	24.1	55.8	.0074	33.1	22.4	23.0	50.0	.0070	34.0
9	7.0	7.8	66.2	.0209	15.1	20.5	21.1	53.8	.0085	31.4	22.5	23.1	49.7	.0069	34.1
11	7.3	8.0	70.0	.0217	14.4	19.2	19.8	56.6	.0096	29.3	23.4	24.2	28.6	.0040	40.4
12	8.7	9.4	67.5	.0199	16.4	21.6	22.1	59.8	.0090	30.4	22.7	23.3	49.1	.0068	34.4
Noon.	8.8	9.7	59.5	.0171	19.2	22.7	23.0	74.0	.0104	28.0	23.3	23.9	47.3	.0064	35.3
1h	9.3	9.9	72.1	.0203	15.7	20.4	20.9	62.1	.0098	28.8	22.1	22.6	58.5	.0085	31.2
2	9.1	9.8	67.2	.0193	16.9	22.1	22.6	58.8	.0085	31.2	21.8	22.3	59.4	.0088	30.7
3	10.1	11.0	57.0	.0154	21.0	21.7	22.5	35.0	.0053	37.7	22.3	22.8	58.4	.0083	31.5
4	10.5	11.3	60.7	.0162	20.0	21.1	21.8	45.4	.0069	34.4	23.1	23.3	82.7	.0113	26.6
5	12.3	12.7	79.3	.0190	17.0	18.7	19.5	44.0	.0077	32.8	21.7	22.3	59.4	.0088	30.7
6	12.5	12.9	79.1	.0188	17.2	19.7	20.4	48.2	.0080	30.6	21.9	22.5	51.0	.0074	33.3
7	12.3	12.8	74.2	.0178	18.1	20.1	20.2	93.0	.0150	21.5	23.3	23.9	47.3	.0064	35.3
8	14.5	14.8	84.0	.0179	18.1	21.8	22.3	59.4	.0088	30.7	22.7	23.3	49.1	.0068	34.4
9	16.8	17.3	68.4	.0131	24.0	24.7	25.3	44.1	.0055	37.1	20.5	21.1	53.8	.0085	31.4
10	18.1	18.5	72.5	.0131	24.0	21.8	22.5	43.0	.0063	35.6	22.6	23.1	57.8	.0081	31.9
11	—17.9	—18.4	66.6	0.0121	—25.5	—17.3	—17.9	61.1	0.0014	—26.5	—23.6	—24.1	55.8	0.0074	—33.1
Means.			67.12	0.0197	—16.67			54.86	0.0084	—30.90			51.19	0.0070	—34.12

DECEMBER, 1871.

Day.	9.					10.					11.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	—21.3	—21.8	60.4	0.0091	—29.9	+ 3.0	+ 2.2	77.9	0.0388	— 2.3	— 2.3	— 2.7	86.3	0.0336	— 5.4
1	22.4	22.8	66.4	.0094	29.5	4.1	3.3	78.9	.0413	0.9	1.3	1.7	86.7	.0355	4.2
2	20.5	21.1	53.8	.0085	31.4	2.9	2.2	80.5	.0400	1.9	2.0	2.4	86.4	.0342	5.0
3	21.9	22.5	51.0	.0074	33.3	2.4	1.8	82.9	.0401	— 1.6	2.4	2.8	86.2	.0334	5.5
4	22.8	23.3	57.4	.0080	32.2	8.3	7.6	84.2	.0535	+ 4.6	2.1	2.6	83.0	.0327	5.9
5	23.2	23.7	56.6	.0077	32.6	6.3	5.5	80.6	.0466	1.6	4.4	5.2	69.6	.0248	11.7
6	23.7	24.3	46.4	.0062	35.9	10.2	9.4	83.2	.0574	6.0	6.7	7.5	66.5	.0213	14.6
7	23.0	23.6	48.2	.0067	34.9	10.3	9.5	83.3	.0577	6.2	4.4	4.9	81.1	.0288	8.7
8	22.7	23.6	21.6	.0034	42.3	10.7	9.8	81.4	.0575	6.1	3.7	4.7	63.6	.0233	13.0
9	22.7	23.4	39.8	.0057	36.8	7.9	6.8	74.8	.0466	1.4	4.0	4.7	73.3	.0268	10.1
10	20.5	21.2	46.6	.0074	33.4	6.4	5.6	80.6	.0469	+ 1.8	7.5	8.1	73.9	.0227	13.5
11	18.6	19.5	37.5	.0066	34.7	3.7	3.0	81.1	.0418	— 0.8	9.4	10.0	72.0	.0202	15.8
Noon.	16.5	17.1	61.9	.0121	25.5	1.2	0.7	85.2	.0392	2.0	7.5	8.3	65.4	.0202	15.9
1h	15.7	16.4	57.2	.0117	26.0	2.7	2.0	80.3	.0395	2.1	9.4	9.7	86.3	.0234	12.4
2	12.6	13.5	52.0	.0124	24.8	2.6	1.9	80.2	.0393	2.2	10.7	11.3	70.7	.0185	17.5
3	10.9	11.8	55.4	.0144	22.2	2.2	1.3	74.3	.0358	4.1	11.1	11.7	70.3	.0181	18.2
4	9.8	10.8	53.0	.0145	22.0	+ 0.5	+ 0.0	84.7	.0376	3.1	11.0	11.6	70.4	.0182	18.0
5	7.1	7.9	66.1	.0208	15.3	— 0.9	— 1.5	80.5	.0336	5.5	10.2	10.9	66.1	.0178	18.3
6	6.3	6.9	75.1	.0245	12.0	1.4	1.8	86.7	.0353	4.3	10.3	11.0	66.0	.0177	18.4
7	— 0.4	— 1.1	77.9	.0332	— 5.7	1.1	1.5	86.9	.0359	4.0	11.9	12.6	63.8	.0157	20.6
8	+ 1.7	+ 0.9	76.7	.0360	+ 3.9	0.8	1.3	83.7	.0351	4.5	13.9	14.7	60.6	.0135	23.6
9	3.2	2.4	78.0	.0392	2.1	3.0	3.5	82.5	.0310	7.0	14.0	14.7	60.6	.0135	23.6
10	2.9	2.1	77.8	.0386	2.4	2.7	3.1	86.1	.0329	5.9	14.0	14.7	60.6	.0135	23.6
11	+ 3.9	+ 3.1	78.7	0.0408	+ 1.2	— 5.5	— 6.1	75.9	0.0256	—11.1	—14.1	—14.8	60.4	0.0134	—23.7
Means.			57.31	0.0160	—22.95			81.52	0.0412	— 1.48			72.91	0.0225	—14.47

Day.	DECEMBER, 1871.														
	12.					13.					14.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	—13.6	—14.7	39.6	0.0089	—30.7	—14.5	—15.2	59.6	0.0129	—24.2	— 8.5	— 9.4	60.0	0.0174	—18.7
1	13.1	14.2	40.6	.0094	29.7	15.6	16.4	51.2	.0106	27.6	10.7	11.4	65.6	.0172	19.0
2	12.7	13.7	45.6	.0110	27.0	14.5	15.4	47.8	.0104	27.9	10.7	11.6	55.8	.0147	21.9
3	13.7	14.7	42.9	.0100	28.7	13.5	14.5	43.5	.0102	28.3	8.6	8.7	100.0	.0287	9.5
4	14.2	14.8	65.4	.0145	22.2	14.6	15.6	40.8	.0091	30.1	8.2	8.7	78.0	.0230	13.0
5	14.3	14.8	72.2	.0157	20.7	14.7	15.7	40.6	.0090	30.3	7.7	8.6	61.4	.0186	17.5
6	13.4	14.2	55.6	.0128	24.4	15.8	16.6	50.8	.0104	27.9	7.2	7.8	74.2	.0231	13.1
7	11.9	12.6	63.8	.0157	20.6	15.5	16.3	51.4	.0107	27.4	7.1	7.7	74.3	.0233	13.0
8	11.3	12.1	59.9	.0152	21.3	14.7	15.6	47.2	.0102	28.2	6.9	7.7	66.3	.0211	15.4
9	10.6	11.6	50.8	.0135	23.3	14.6	15.5	47.5	.0103	28.0	8.5	9.2	67.8	.0202	16.0
10	10.9	11.7	60.5	.0159	20.3	14.5	15.3	53.5	.0117	26.0	6.7	7.6	63.8	.0200	15.9
11	11.1	11.8	65.2	.0165	19.8	15.2	16.0	52.0	.0110	27.0	8.7	9.4	67.6	.0199	16.4
Noon.	14.5	15.1	64.9	.0142	22.5	14.9	15.8	46.6	.0100	28.6	10.5	10.9	80.1	.0212	14.9
1h	17.3	17.7	73.6	.0139	23.0	15.8	16.6	50.8	.0104	27.9	11.3	11.8	75.2	.0190	16.8
2	17.0	17.7	55.3	.0105	28.0	16.2	16.8	62.4	.0124	25.0	11.3	11.8	75.2	.0190	16.8
3	17.8	18.5	53.5	.0097	29.2	14.3	14.9	65.2	.0144	22.3	11.3	11.8	75.2	.0190	16.8
4	18.4	18.8	72.2	.0128	24.4	15.8	16.4	63.2	.0128	24.4	11.6	12.3	64.4	.0161	20.2
5	19.4	19.8	71.2	.0119	25.6	15.9	16.6	56.8	.0115	26.3	11.0	11.7	65.3	.0168	19.5
6	19.5	19.9	71.1	.0118	25.7	15.6	16.4	51.2	.0106	27.6	15.8	16.2	75.8	.0153	21.2
7	18.5	18.9	72.1	.0127	24.6	13.7	14.7	42.9	.0100	28.7	14.7	15.4	59.2	.0127	24.5
8	17.9	18.5	60.0	.0108	27.3	12.5	13.5	46.0	.0112	26.7	14.7	16.3	63.4	.0129	24.3
9	16.4	17.1	55.9	.0111	27.1	11.1	11.8	65.2	.0167	19.6	12.5	13.6	42.2	.0101	28.6
10	17.0	17.7	55.3	.0105	28.0	10.9	11.6	65.4	.0169	19.4	14.4	14.7	84.0	.0180	18.0
11	—17.0	—17.7	55.3	0.0105	—28.0	— 9.6	—10.5	57.9	0.0161	—20.3	—13.9	—14.5	66.0	0.0148	—21.9
Means.			59.27	0.0126	—25.09			52.44	0.0116	—26.24			69.20	0.0184	—21.81

Day.	DECEMBER, 1871.														
	15.					16.					17.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	—12.2	—12.8	68.4	0.0166	—19.6	—14.5	—15.6	37.2	0.0080	—32.3	—17.8	—18.5	53.5	0.0109	—29.2
1	13.7	14.6	49.8	.0113	26.6	17.5	18.5	34.5	.0063	35.3	17.2	17.9	55.1	.0103	28.3
2	10.7	11.6	55.8	.0147	21.9	13.5	14.5	43.5	.0102	28.3	17.5	18.0	67.0	.0125	22.9
3	14.3	15.1	53.9	.0119	25.8	14.6	15.6	40.8	.0091	30.1	17.9	18.7	45.9	.0084	31.5
4	12.8	13.4	67.6	.0160	20.5	14.8	15.9	36.3	.0077	32.8	17.4	18.1	55.7	.0101	28.5
5	13.1	14.0	51.0	.0119	25.7	15.7	16.7	39.6	.0080	32.4	18.1	18.7	59.6	.0106	27.7
6	14.7	15.4	59.2	.0127	24.5	16.9	17.7	48.6	.0094	29.6	19.9	20.8	33.6	.0054	36.9
7	17.0	17.8	48.4	.0093	29.8	17.0	18.0	36.0	.0068	34.2	21.0	21.8	37.6	.0057	36.6
8	16.0	16.7	56.6	.0114	26.5	16.7	17.7	36.9	.0070	33.8	21.5	22.2	44.2	.0066	35.0
9	15.7	16.6	44.8	.0092	30.1	16.8	17.6	48.8	.0095	29.5	21.6	22.5	26.0	.0042	40.2
10	14.3	14.9	65.2	.0144	22.3	16.8	17.5	55.5	.0107	27.7	21.4	22.0	52.0	.0078	32.5
11	14.8	15.6	52.8	.0114	26.5	17.2	17.8	61.2	.0115	26.4	21.3	21.8	60.4	.0091	29.9
Noon.	13.9	14.3	77.7	.0173	18.8	17.4	18.0	61.0	.0113	26.6	20.7	21.4	46.2	.0073	33.8
1h	14.6	14.7	94.3	.0203	15.7	17.8	18.5	53.5	.0097	29.2	21.5	22.3	35.8	.0055	37.3
2	15.5	16.2	58.6	.0119	25.7	18.1	18.7	59.6	.0106	27.6	20.2	21.0	40.0	.0064	35.1
3	13.5	14.4	50.2	.0115	26.3	17.7	18.5	46.5	.0086	31.6	20.0	20.8	40.0	.0065	34.7
4	13.8	14.5	61.0	.0137	23.2	18.2	18.9	52.3	.0093	29.8	20.4	21.1	46.8	.0074	33.2
5	18.3	19.0	52.0	.0092	30.0	18.3	18.9	59.2	.0104	28.0	19.1	19.7	56.9	.0097	29.2
6	17.7	18.5	46.5	.0086	31.6	17.7	18.4	53.8	.0098	29.0	18.5	19.3	44.4	.0079	32.5
7	17.5	18.4	40.8	.0075	33.6	17.4	18.0	61.0	.0113	26.6	20.8	21.4	53.2	.0084	31.9
8	16.8	17.5	55.5	.0107	27.7	17.7	18.4	53.8	.0098	29.0	22.3	22.8	58.4	.0083	31.5
9	17.5	18.2	55.4	.0100	28.7	17.7	18.4	53.8	.0098	29.0	20.6	21.2	53.6	.0085	31.6
10	17.4	18.2	47.4	.0089	30.6	17.8	18.2	72.8	.0134	23.6	21.3	21.9	52.2	.0079	32.4
11	—16.2	—17.3	32.1	0.0063	—35.2	—17.7	—18.4	53.8	0.0098	—29.0	—23.3	—23.9	47.3	0.0064	—35.3
Means.			56.04	0.0119	—26.12			50.00	0.0095	—29.64			48.56	0.0121	—32.40

Day.	DECEMBER, 1871.														
	18.					19.					20.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	-25.0	-25.5	53.0	0.0066	-35.2	-11.6	-12.4	59.2	0.0148	-21.7	- 7.1	- 7.8	70.2	0.0220	-14.1
1	25.4	26.0	42.0	.0049	38.2	11.4	12.1	64.8	.0164	19.9	7.5	8.2	69.6	.0214	14.6
2	24.7	25.6	14.4	.0020	46.2	10.8	11.4	70.6	.0184	17.7	7.7	8.5	64.9	.0200	16.2
3	24.8	25.6	23.4	.0031	43.1	9.9	10.7	61.6	.0170	19.3	8.3	9.4	52.2	.0151	20.9
4	26.3	26.8	49.6	.0056	37.0	8.6	9.4	63.6	.0186	17.3	8.3	9.4	52.2	.0151	20.9
5	26.4	27.0	39.0	.0043	39.8	6.6	7.4	66.6	.0215	14.5	8.7	9.6	59.8	.0172	19.0
6	26.5	27.1	38.6	.0043	40.0	4.3	5.0	73.0	.0263	10.5	8.8	9.7	59.6	.0170	19.2
7	26.2	26.7	49.9	.0057	36.8	3.8	4.7	67.3	.0245	12.1	9.8	10.8	52.6	.0145	22.0
8	27.7	28.5	49.0	.0060	39.8	4.3	5.2	66.6	.0237	12.7	11.6	12.5	53.9	.0136	23.2
9	27.7	28.5	49.0	.0060	39.8	4.1	4.9	70.1	.0253	11.3	11.7	12.7	47.8	.0121	25.2
10	26.4	27.1	27.5	.0031	42.9	3.5	4.3	70.7	.0262	10.5	12.4	13.4	46.2	.0113	26.5
11	25.2	25.8	42.6	.0051	37.8	3.4	4.0	78.0	.0290	8.5	12.1	13.0	53.0	.0130	24.1
Noon.	24.2	24.7	54.6	.0070	34.0	3.1	3.7	78.3	.0296	8.2	12.6	13.6	45.8	.0111	26.8
1h	22.1	22.8	41.8	.0060	36.0	3.2	3.8	78.2	.0294	8.3	13.9	14.7	54.6	.0122	25.2
2	20.7	21.5	38.5	.0060	36.1	3.3	3.8	82.2	.0305	7.5	12.9	13.9	45.2	.0108	27.3
3	20.7	21.4	46.2	.0073	33.8	2.7	3.6	68.4	.0262	10.6	12.5	13.4	52.2	.0125	24.7
4	19.3	19.9	56.3	.0095	29.4	3.2	4.0	71.0	.0267	10.2	13.2	14.3	49.2	.0116	25.6
5	19.2	19.7	63.9	.0108	27.3	3.3	4.3	64.4	.0240	12.5	12.4	13.4	46.2	.0113	26.5
6	19.3	19.8	63.6	.0107	27.5	3.1	4.3	57.5	.0218	14.6	12.0	13.1	43.7	.0106	27.7
7	13.7	14.5	55.0	.0125	24.9	3.4	4.6	57.4	.0213	15.1	12.0	13.1	43.7	.0106	27.7
8	13.7	14.5	55.0	.0125	24.9	4.2	5.1	66.8	.0239	12.6	11.7	12.8	44.4	.0110	27.3
9	12.8	13.6	56.8	.0134	23.5	5.1	6.1	61.9	.0212	14.9	11.3	12.4	45.2	.0114	26.5
10	12.8	13.6	56.8	.0134	23.5	6.1	7.0	64.0	.0209	15.1	10.6	11.6	50.8	.0135	23.3
11	-12.7	-13.5	57.0	0.0135	-23.3	- 6.5	- 7.3	66.7	0.0217	-14.4	-10.6	-11.7	46.9	0.0122	-25.2
Means.			46.81	0.0075	-34.20			67.45	0.0233	-13.75			52.80	0.0138	-23.32

Day.	DECEMBER, 1871.														
	21.					22.					23.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	-12.6	-13.3	62.7	0.0150	-21.4	-22.6	-23.3	40.1	0.0058	-36.7	-22.3	-22.9	50.2	0.0070	-33.9
1	12.8	13.6	56.8	.0134	23.5	22.5	23.1	49.7	.0069	34.1	23.2	23.8	47.6	.0065	35.2
2	13.1	14.0	51.0	.0119	25.7	22.5	23.0	58.0	.0082	31.7	23.1	23.7	47.9	.0066	35.0
3	16.4	17.4	37.8	.0073	33.3	22.1	22.9	33.4	.0049	38.4	23.2	24.0	29.0	.0041	40.2
4	14.7	16.0	26.0	.0053	37.4	21.6	22.3	43.8	.0065	35.2	24.1	24.8	36.4	.0047	38.9
5	16.8	17.4	61.6	.0119	25.9	22.2	22.9	41.4	.0059	36.1	24.5	25.3	25.2	.0033	42.5
6	17.9	18.3	72.7	.0133	23.8	22.1	22.8	41.8	.0060	36.0	24.7	25.4	34.0	.0043	39.8
7	20.4	20.9	62.1	.0098	28.8	23.0	24.1	44.7	.0062	35.6	24.7	25.5	24.0	.0032	42.9
8	22.5	22.9	66.2	.0093	29.6	23.2	23.8	47.6	.0065	35.2	26.5	27.1	38.6	.0043	40.0
9	19.8	20.8	26.0	.0042	39.8	21.3	21.9	52.2	.0079	32.4	27.3	27.9	35.4	.0037	41.3
10	23.1	23.5	65.0	.0090	30.7	21.3	21.9	52.2	.0079	32.4	27.5	28.1	34.5	.0036	41.6
11	22.9	23.5	48.5	.0067	34.7	23.1	23.9	29.4	.0042	40.1	26.7	27.5	32.7	.0037	41.2
Noon.	21.9	22.6	42.6	.0062	35.8	17.5	18.2	52.9	.0095	29.5	25.3	26.0	31.0	.0038	40.9
1h	24.5	24.8	72.2	.0092	30.1	16.7	17.3	61.7	.0119	25.7	25.1	25.8	32.0	.0040	40.6
2	24.7	25.3	44.1	.0055	37.1	17.5	18.2	52.9	.0095	29.5	24.4	24.9	54.2	.0068	34.3
3	23.0	23.8	29.8	.0043	39.9	17.2	18.0	48.0	.0091	30.2	24.4	24.9	54.2	.0068	34.3
4	23.4	24.0	47.0	.0063	35.4	18.0	18.8	45.6	.0083	31.7	25.0	25.7	32.5	.0041	40.4
5	23.2	24.1	19.8	.0030	44.2	18.7	19.5	44.0	.0077	32.8	27.5	28.0	46.0	.0048	38.6
6	24.3	24.8	54.4	.0069	34.2	18.6	19.5	37.5	.0066	34.7	28.0	28.5	44.0	.0046	39.3
7	24.5	25.0	54.0	.0068	34.4	18.6	19.5	37.5	.0066	34.7	27.5	27.8	67.4	.0072	33.7
8	24.4	24.9	54.2	.0068	34.3	18.5	19.4	37.8	.0067	34.5	26.0	26.5	50.5	.0059	36.5
9	23.8	24.4	46.2	.0061	36.0	17.8	18.6	46.2	.0085	31.3	28.5	29.1	29.4	.0030	43.2
10	23.9	24.6	36.8	.0049	38.6	17.3	18.1	47.7	.0090	30.4	28.1	28.7	31.5	.0033	42.5
11	-22.1	-22.9	33.4	0.0049	-38.4	-17.0	-17.8	48.4	0.0093	-29.8	-28.5	-29.1	29.4	0.0030	-43.2
Means.			48.79	0.0078	-33.04			45.60	0.0075	-33.28			39.07	0.0047	-39.17

Day.	DECEMBER, 1871.														
	24.					25.					26.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	—29.3	—29.9	24.6	0.0025	—44.4	—17.8	—18.9	27.3	0.0048	—38.6	—21.2	—21.9	45.2	0.0068	—34.5
1	30.1	30.7	21.2	.0020	45.6	22.8	23.6	30.6	.0045	39.5	21.0	21.5	61.0	.0094	29.5
2	30.5	31.1	20.6	.0020	45.5	23.1	23.9	29.4	.0042	40.1	21.5	22.1	51.8	.0078	32.7
3	30.6	31.2	20.0	.0020	45.5	26.7	27.3	37.8	.0042	40.3	21.3	21.9	52.2	.0079	32.4
4	29.7	30.5	19.4	.0020	45.5	28.5	29.1	29.4	.0030	43.2	21.4	21.8	68.2	.0103	28.3
5	28.4	29.2	18.9	.0021	45.5	26.5	27.1	38.6	.0043	40.0	23.3	23.8	56.4	.0076	32.7
6	27.1	27.9	18.3	.0021	45.5	29.2	29.7	39.2	.0039	41.0	23.5	24.1	46.8	.0063	35.6
7	26.0	26.8	17.8	.0022	45.4	29.6	30.3	39.0	.0038	41.0	23.6	24.3	37.4	.0051	38.1
8	26.0	26.6	40.2	.0046	39.1	29.3	29.8	38.8	.0038	41.1	22.1	22.8	41.8	.0060	36.0
9	25.5	26.1	41.7	.0049	38.4	28.0	28.8	32.9	.0030	43.1	21.6	22.4	35.4	.0054	37.5
10	24.8	25.5	33.5	.0043	40.0	32.1	32.6	27.0	.0023	45.1	21.2	22.1	27.6	.0045	39.4
11	29.2	29.6	51.2	.0050	38.2	28.5	29.3	56.4	.0046	39.6	20.3	21.2	32.0	.0052	37.6
Noon.	25.8	26.4	40.8	.0047	38.8	32.1	32.2	85.8	.0069	34.2	19.6	20.5	34.5	.0057	36.5
1^h	26.1	26.7	39.9	.0046	39.3	31.3	31.8	30.8	.0027	43.8	22.0	22.7	42.2	.0061	35.9
2	26.3	27.0	28.0	.0031	42.8	33.9	34.7	32.1	.0030	43.0	20.5	21.5	26.7	.0035	36.7
3	24.6	25.6	28.3	.0035	41.6	30.0	31.0	33.4	.0034	42.2	18.6	19.6	31.2	.0054	37.5
4	23.4	24.2	28.6	.0040	40.4	27.0	28.0	34.7	.0037	41.3	18.7	19.7	30.9	.0053	37.6
5	23.1	23.9	29.4	.0042	40.1	25.0	26.0	36.0	.0041	40.5	22.7	23.6	21.6	.0034	42.3
6	22.7	23.2	57.6	.0081	32.1	22.0	23.0	37.3	.0044	39.7	23.4	24.1	37.8	.0052	37.8
7	22.3	22.9	50.2	.0070	33.9	20.3	21.7	38.6	.0047	38.9	26.8	27.4	37.4	.0041	40.4
8	21.9	22.5	51.0	.0074	33.3	20.6	22.2	39.9	.0051	38.1	26.5	27.1	38.6	.0043	40.0
9	21.4	22.6	43.8	.0061	36.0	21.0	22.7	41.2	.0054	37.2	28.3	28.7	53.9	.0056	37.0
10	24.0	24.7	36.6	.0048	38.7	18.5	20.2	42.5	.0058	36.4	25.7	26.1	59.8	.0072	33.8
11	—19.6	—20.5	34.5	0.0057	—36.5	—16.6	—18.2	43.8	0.0062	—35.6	—28.3	—28.9	30.5	0.0031	—42.8
Means.			33.17	0.0041	—40.50			38.85	0.0042	—40.15			41.70	0.0059	—36.28

Day.	DECEMBER, 1871.														
	27.					28.					29.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	—27.0	—27.6	36.6	0.0040	—40.7	—27.9	—28.5	32.5	0.0034	—42.2	—18.9	—19.8	36.6	0.0063	—35.3
1	24.6	25.4	24.6	.0032	42.7	31.9	32.0	86.0	.0070	34.0	19.7	20.6	34.2	.0056	36.6
2	24.5	25.0	54.0	.0068	34.4	29.5	30.1	23.6	.0024	44.7	19.9	20.6	47.8	.0078	30.4
3	27.8	28.8	49.5	.0062	35.5	28.8	29.5	21.8	.0023	45.0	21.1	21.6	60.8	.0093	29.6
4	24.4	25.0	45.0	.0056	36.6	27.9	28.6	20.0	.0022	45.3	27.7	28.3	33.5	.0035	41.9
5	24.5	25.1	44.7	.0056	36.8	26.7	27.4	26.0	.0029	43.4	26.8	27.5	25.5	.0029	43.5
6	21.3	22.1	36.6	.0056	36.9	25.8	26.6	18.6	.0024	45.0	28.7	29.3	28.2	.0029	43.5
7	21.1	21.9	37.3	.0056	36.7	25.9	26.5	40.5	.0047	39.0	23.4	24.1	37.8	.0052	37.8
8	20.5	21.4	31.0	.0050	38.0	26.9	27.6	25.0	.0028	43.7	22.9	23.6	56.8	.0078	32.5
9	21.2	21.9	45.2	.0068	34.5	29.4	29.8	50.6	.0049	38.4	23.5	23.6	91.4	.0124	25.2
10	21.5	22.3	35.8	.0055	37.3	27.5	28.2	22.0	.0024	44.5	21.7	22.5	35.0	.0053	37.7
11	26.3	26.9	39.3	.0044	39.6	27.5	28.2	22.0	.0024	44.5	24.3	24.7	62.6	.0082	32.0
Noon.	24.4	25.0	45.0	.0056	36.6	32.0	32.5	27.5	.0024	45.0	22.6	23.2	49.4	.0069	34.3
1^h	26.5	26.9	58.2	.0066	34.8	25.5	26.2	30.4	.0037	41.2	18.5	19.6	24.6	.0043	40.0
2	27.7	28.2	45.2	.0047	39.0	19.5	20.2	48.6	.0082	31.0	20.8	21.4	53.2	.0084	31.9
3	27.0	27.5	47.5	.0052	37.9	16.3	17.0	56.0	.0111	26.9	17.5	18.6	28.2	.0051	38.0
4	24.4	25.0	45.0	.0056	36.6	16.4	17.1	55.9	.0110	27.1	16.5	17.3	49.4	.0098	29.0
5	25.9	26.5	40.5	.0047	39.0	16.4	17.1	55.9	.0110	27.1	17.4	18.1	54.7	.0101	28.5
6	25.8	26.5	29.5	.0035	41.8	15.8	16.6	50.8	.0104	27.9	15.1	15.9	52.2	.0111	26.9
7	25.5	26.1	41.7	.0049	38.4	15.4	16.5	34.5	.0071	33.8	13.5	14.3	55.4	.0127	24.6
8	25.4	25.7	70.6	.0086	31.3	15.4	16.3	45.4	.0095	29.5	12.5	13.3	57.4	.0137	23.0
9	26.5	27.1	38.6	.0043	40.0	16.5	17.4	43.2	.0084	31.2	13.4	14.2	55.6	.0128	24.4
10	28.0	28.4	54.8	.0057	36.7	17.5	18.4	40.8	.0075	33.0	15.8	16.5	57.0	.0116	26.2
11	—27.9	—28.5	32.5	0.0034	—42.2	—18.2	—19.1	38.7	0.0070	—34.1	—18.3	—19.2	38.4	0.0069	—34.2
Means.			42.86	0.0053	—37.66			38.18	0.0057	—37.40			46.90	0.0079	—32.79

Day.	DECEMBER, 1871.										JANUARY, 1872.				
	30.					**31.**					**1.**				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	—18.5	—19.4	37.8	0.0067	—34.5	—17.4	—18.4	34.8	0.0064	—35.1	—26.5	—27.0	49.0	0.0054	—37.2
1	17.3	18.1	47.7	.0090	30.4	19.7	20.5	41.5	.0068	34.3	26.5	27.0	49.0	.0054	37.2
2	16.7	17.7	36.9	.0070	33.8	20.6	21.2	53.6	.0085	31.6	27.3	27.9	40.0	.0043	39.9
3	14.6	15.4	53.2	.0116	26.2	22.8	23.4	39.8	.0057	36.8	28.2	28.8	31.0	.0032	42.6
4	16.6	17.6	37.2	.0071	33.6	19.3	20.0	49.0	.0084	31.4	24.5	25.1	44.7	.0056	36.8
5	16.7	17.5	49.0	.0096	29.3	17.7	18.4	53.8	.0098	29.0	24.4	25.0	45.0	.0056	36.6
6	20.2	21.0	40.0	.0064	35.1	17.3	17.9	61.1	.0114	26.5	27.6	27.9	67.2	.0071	33.8
7	18.6	19.3	51.1	.0090	30.6	17.3	17.9	61.1	.0114	26.5	30.0	30.4	48.8	.0045	39.3
8	23.5	24.4	19.2	.0028	44.8	19.3	20.0	49.0	.0084	31.4	28.9	29.4	40.4	.0040	40.7
9	15.2	15.8	64.2	.0134	23.5	19.7	20.6	34.2	.0056	36.6	27.4	27.9	46.3	.0049	38.5
10	19.0	19.7	49.9	.0086	31.1	17.8	18.6	46.2	.0085	31.3	26.0	26.4	59.2	.0070	34.3
11	18.1	18.7	59.6	.0106	27.6	21.1	21.5	68.5	.0106	28.0	26.6	27.4	41.1	.0048	39.3
Noon.	19.4	20.0	56.0	.0095	29.5	21.8	22.5	43.0	.0063	35.6	27.3	28.0	23.0	.0025	44.3
1h	19.7	20.5	41.5	.0068	34.3	20.7	21.5	38.5	.0060	36.1	26.7	27.4	26.0	.0029	43.4
2	18.5	19.4	37.8	.0067	34.5	19.5	20.3	42.1	.0070	34.0	26.7	27.2	48.4	.0053	37.5
3	17.5	18.4	40.8	.0075	33.0	21.1	21.7	52.6	.0081	32.2	25.9	26.5	40.2	.0047	39.1
4	17.2	18.0	48.0	.0091	30.2	24.8	25.4	43.8	.0054	37.2	25.5	26.1	36.1	.0043	39.8
5	18.4	19.2	44.6	.0080	32.3	24.4	25.0	45.0	.0056	36.6	25.1	25.8	32.0	.0040	40.6
6	17.2	17.9	50.1	.0103	28.3	25.8	26.4	40.8	.0047	38.8	24.5	25.0	54.0	.0068	34.4
7	18.6	19.5	37.5	.0066	34.7	26.3	26.8	49.6	.0056	37.0	24.6	25.5	15.0	.0021	46.0
8	17.9	18.8	39.5	.0071	33.6	27.3	27.6	67.8	.0073	33.5	24.3	24.9	45.2	.0056	36.5
9	16.5	17.4	43.2	.0084	31.2	25.9	26.7	18.2	.0023	45.2	25.3	25.9	42.3	.0050	38.0
10	19.9	20.7	40.9	.0066	34.6	26.4	27.1	27.5	.0031	42.9	26.9	27.5	37.0	.0041	40.6
11	—17.6	—18.5	40.5	0.0074	—33.1	—26.5	—27.1	38.6	0.0043	—40.0	—24.5	—25.1	44.7	0.0056	—36.8
Means.			44.42	0.0080	—32.08			45.84	0.0070	—34.48			41.90	0.0048	—38.88

Day.	JANUARY, 1872.														
	2.					**3.**					**4.**				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	—25.2	—25.7	52.6	0.0064	—35.5	—20.3	—21.0	47.0	0.0075	—33.0	—16.0	—16.9	44.2	0.0089	—30.7
1	25.7	26.4	29.8	.0036	41.6	21.0	21.7	45.6	.0070	34.3	15.2	16.1	45.8	.0097	29.1
2	24.7	25.4	34.0	.0043	39.8	16.3	17.1	49.8	.0100	28.8	14.5	15.6	37.2	.0080	32.3
3	25.2	25.7	52.6	.0064	35.5	16.9	17.6	55.4	.0106	27.8	14.8	15.7	46.9	.0101	28.4
4	24.1	24.8	36.4	.0047	38.9	18.0	18.7	52.9	.0095	29.5	13.3	14.3	44.1	.0104	28.0
5	25.1	25.8	32.0	.0040	40.6	18.8	19.4	57.8	.0100	28.9	12.7	13.8	41.6	.0099	29.0
6	24.7	25.3	44.1	.0055	37.1	17.7	18.4	53.8	.0098	29.0	17.6	18.7	27.9	.0050	38.2
7	26.4	27.1	27.5	.0031	42.9	17.1	17.7	61.3	.0116	26.3	18.0	19.1	26.6	.0047	39.0
8	23.2	23.9	38.3	.0053	37.6	17.5	18.2	54.4	.0100	28.7	18.3	19.3	32.1	.0057	36.9
9	23.4	24.1	37.8	.0052	37.8	17.8	18.5	53.5	.0097	29.2	21.5	22.2	44.2	.0066	35.0
10	24.0	24.6	45.8	.0060	36.2	17.5	18.4	40.8	.0075	33.0	25.7	26.3	41.1	.0048	38.7
11	25.0	25.6	43.2	.0053	37.5	17.8	18.7	39.9	.0072	33.4	27.0	27.6	36.6	.0040	40.7
Noon.	25.6	26.1	51.7	.0061	35.9	17.0	17.7	55.3	.0105	27.9	27.6	28.3	21.5	.0024	44.7
1h	22.4	23.4	46.1	.0067	34.5	17.0	17.8	48.4	.0093	29.8	27.8	28.4	33.0	.0034	42.0
2	17.6	18.5	40.5	.0074	33.1	17.5	18.3	47.1	.0088	30.8	28.3	28.7	53.9	.0056	37.0
3	18.1	18.9	45.3	.0182	31.9	16.0	17.0	39.0	.0077	32.7	29.2	29.6	51.2	.0050	38.2
4	18.1	18.9	45.3	.0182	31.9	16.7	17.5	49.0	.0096	29.4	30.2	30.6	48.2	.0044	39.5
5	18.1	18.9	45.3	.0182	31.9	16.0	16.9	44.2	.0089	30.7	30.6	31.3	41.3	.0038	41.1
6	18.1	18.9	45.3	.0182	31.9	15.3	16.2	45.6	.0096	29.3	30.4	30.9	34.4	.0032	42.7
7	17.4	18.2	47.4	.0089	30.6	18.0	19.0	33.0	.0058	36.3	32.6	33.1	24.5	.0020	45.6
8	18.1	18.9	45.3	.0182	31.9	17.9	18.7	45.9	.0084	31.5	33.4	33.7	52.2	.0039	40.8
9	18.1	18.9	45.3	.0182	31.9	17.9	18.7	45.9	.0084	31.5	32.4	32.8	39.8	.0032	42.6
10	18.9	19.7	43.6	.0075	33.1	17.2	18.0	48.0	.0091	30.2	33.1	33.5	37.0	.0027	43.1
11	—19.5	—20.3	42.1	0.0070	—34.0	—16.8	—17.6	48.8	0.0095	—29.5	—35.5	—36.0	29.2	0.0022	—44.8
Means.			42.39	0.0089	—35.57			48.43	0.0090	—30.48			38.94	0.0054	—37.92

JANUARY, 1872.

Day.	5.					6.					7.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	—33.9	—34.4	25.3	0.0019	—45.7	—27.3	—27.8	46.6	0.0050	—38.4	—30.9	—31.3	45.8	0.0041	—40.6
1	33.2	33.7	21.5	.0017	46.6	29.6	30.1	37.6	.0036	41.6	30.1	30.6	35.6	.0033	42.4
2	33.8	34.3	21.7	.0020	45.5	30.9	31.4	32.4	.0029	43.4	26.5	27.0	49.0	.0054	37.2
3	27.5	28.2	22.0	.0024	44.5	30.7	31.1	46.6	.0042	40.2	25.9	26.3	59.4	.0071	34.2
4	24.5	25.4	15.6	.0021	45.8	27.0	27.8	38.8	.0040	40.5	29.7	30.1	49.7	.0047	38.9
5	23.8	24.5	37.0	.0050	38.4	25.3	26.0	31.0	.0038	40.9	30.6	31.1	33.6	.0031	43.8
6	24.9	25.5	43.5	.0054	37.4	27.6	28.0	56.0	.0059	36.2	30.7	31.2	33.2	.0030	43.2
7	24.0	24.7	36.6	.0048	38.7	26.7	27.5	51.1	.0054	37.3	29.5	30.2	34.6	.0032	42.8
8	19.3	19.9	56.3	.0095	29.4	27.4	27.9	46.3	.0049	38.5	29.7	30.5	36.0	.0034	42.3
9	17.7	18.4	53.8	.0098	29.0	23.7	24.6	18.8	.0026	45.2	29.6	30.5	28.0	.0028	43.8
10	20.8	21.2	68.8	.0108	27.6	26.2	26.6	58.8	.0069	34.5	27.9	28.6	20.0	.0022	45.3
11	20.5	24.1	46.8	.0063	35.6	32.9	33.4	23.0	.0019	46.1	28.8	29.4	27.6	.0028	43.7
Noon.	20.8	21.4	53.2	.0084	31.9	33.4	34.3	33.0	.0026	44.0	27.1	27.8	24.0	.0027	44.0
1h	22.9	23.4	57.2	.0080	32.3	30.6	31.2	43.0	.0033	42.0	28.8	29.4	27.6	.0028	43.7
2	25.2	25.7	52.6	.0064	35.5	33.1	33.4	53.4	.0040	40.5	28.8	29.4	27.6	.0028	43.7
3	26.7	27.1	57.8	.0065	35.2	32.6	33.0	39.0	.0030	42.9	28.8	29.4	27.6	.0028	43.7
4	27.6	28.1	45.6	.0048	38.8	30.6	31.0	47.0	.0042	40.0	28.8	29.4	27.6	.0028	43.7
5	27.9	28.5	32.5	.0034	42.2	29.6	30.2	23.2	.0023	44.9	28.8	29.4	27.6	.0028	43.7
6	29.4	29.8	50.6	.0049	38.4	28.9	29.7	29.5	.0035	42.9	28.8	29.4	27.6	.0028	43.7
7	29.6	29.9	63.2	.0059	36.2	27.2	27.8	35.8	.0038	41.0	28.8	29.4	27.6	.0028	43.7
8	29.3	29.8	38.8	.0038	41.1	30.3	30.7	47.9	.0044	39.6	28.8	29.4	27.6	.0028	43.7
9	27.0	27.6	36.6	.0040	40.7	28.3	29.1	40.8	.0038	41.7	28.8	29.4	27.6	.0028	43.7
10	26.2	26.7	49.9	.0057	36.8	30.6	31.1	33.6	.0031	43.8	28.8	29.4	27.6	.0028	43.7
11	—26.3	—26.8	49.6	0.0056	—37.0	—30.4	—30.9	34.4	0.0032	—42.7	—28.8	—29.4	27.6	0.0028	—43.7
Means.			43.19	0.0054	—37.93			39.48	0.0039	—41.12			32.50	0.0033	—42.62

JANUARY, 1872.

Day.	8.					9.					10.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	—30.5	—30.8	61.4	0.0054	—37.2	—35.5	—36.0	26.4	0.0020	—44.0	—24.0	—24.8	27.4	0.0036	—41.6
1	31.1	31.4	59.8	.0051	38.0	37.3	37.7	26.4	.0020	44.0	23.6	24.4	28.2	.0039	40.8
2	31.2	31.5	59.5	.0051	38.1	39.2	39.5	26.4	.0020	44.0	22.8	23.5	39.5	.0057	37.0
3	29.4	29.9	38.4	.0037	41.2	42.7	42.9	26.4	.0020	44.0	22.5	23.1	49.7	.0069	34.1
4	29.9	30.4	36.4	.0034	42.2	43.9	44.3	26.4	.0030	44.0	23.2	23.8	47.6	.0065	35.2
5	28.6	29.2	28.8	.0029	43.3	45.3	45.6	26.4	.0030	44.0	24.1	24.5	63.2	.0084	31.7
6	26.8	27.4	37.4	.0041	40.4	44.1	44.5	26.4	.0030	44.0	23.1	23.7	47.9	.0066	35.0
7	28.2	28.8	31.0	.0032	42.6	41.2	41.5	26.4	.0030	44.0	23.4	24.0	47.0	.0063	35.4
8	27.8	28.4	33.0	.0034	42.0	42.3	42.3	26.4	.0033	44.0	23.2	23.7	56.6	.0077	32.6
9	29.5	29.9	50.3	.0048	38.5	44.5	44.9	26.4	.0020	44.0	23.4	24.0	47.0	.0063	35.4
10	29.9	30.5	22.0	.0021	45.3	45.5	45.9	26.4	.0020	44.0	23.5	24.1	46.8	.0063	35.6
11	28.5	29.0	42.0	.0042	40.0	45.7	45.8	26.4	.0020	44.0	25.8	26.5	29.5	.0035	41.8
Noon.	27.8	28.3	44.8	.0047	39.1	44.6	44.9	26.4	.0020	44.0	26.1	26.6	50.2	.0058	36.7
1h	27.8	28.3	44.8	.0047	39.1	40.1	40.7	26.4	.0010	44.0	26.5	27.0	49.0	.0054	37.2
2	28.8	29.3	40.8	.0041	40.6	43.5	44.0	26.4	.0010	44.0	26.0	26.7	28.9	.0034	42.2
3	30.3	30.8	34.8	.0032	42.6	39.5	39.8	26.4	.0010	44.0	26.5	26.9	58.2	.0066	34.8
4	29.1	29.7	25.8	.0027	44.1	40.1	40.4	26.4	.0010	44.0	26.6	27.1	48.7	.0054	37.3
5	29.7	30.5	24.7	.0023	45.0	37.4	38.1	26.4	.0010	44.0	27.6	28.0	56.0	.0059	36.2
6	33.8	34.4	23.4	.0020	46.9	36.3	37.0	26.4	.0010	44.0	26.6	27.1	48.7	.0054	37.3
7	33.3	33.8	21.0	.0017	46.7	34.2	34.7	26.4	.0010	44.0	26.3	26.9	39.3	.0044	39.6
8	35.3	35.7	25.8	.0017	46.8	35.3	35.9	26.4	.0010	44.0	29.6	30.1	37.6	.0036	41.6
9	35.6	36.5	26.4	.0010	44.0	31.7	32.4	26.4	.0010	44.0	29.4	30.0	24.0	.0024	44.6
10	36.8	37.2	26.4	.0010	44.0	26.5	27.2	27.0	.0030	43.1	26.9	27.4	47.8	.0052	37.8
11	—36.8	—37.2	26.4	0.0010	—44.0	—24.6	—25.3	34.5	0.0044	—39.6	—27.2	—27.7	46.9	0.0051	—38.2
Means.			36.05	0.0030	—42.11			26.76	0.0020	—43.78			44.40	0.0054	—37.49

Day.	JANUARY, 1872.														
	11.					12.					13.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	—27.4	—27.9	46.3	0.0049	—38.5	—28.5	—29.1	29.4	0.0030	—43.2	—29.7	—30.3	22.8	0.0022	—45.0
1	26.7	27.2	48.4	.0053	37.5	30.2	30.7	35.2	.0033	42.5	30.5	31.0	34.0	.0031	42.8
2	26.5	27.0	49.0	.0054	37.2	32.3	32.9	49.3	.0047	39.3	30.4	30.9	34.4	.0032	42.7
3	26.5	27.1	38.6	.0043	40.0	29.5	29.8	63.4	.0060	36.1	30.6	31.0	47.0	.0042	40.0
4	26.5	27.0	49.0	.0054	37.2	29.1	29.7	25.8	.0027	44.1	29.1	29.7	25.8	.0027	44.1
5	27.4	28.1	22.5	.0025	44.4	28.7	29.2	41.2	.0041	40.4	27.9	28.5	32.5	.0034	42.2
6	28.3	28.7	53.9	.0056	37.0	28.4	28.9	42.4	.0043	39.8	26.9	27.6	25.0	.0028	43.7
7	27.6	28.1	45.6	.0048	38.8	28.1	28.7	31.5	.0033	42.5	26.9	27.6	36.6	.0040	40.7
8	30.2	30.8	20.8	.0020	45.8	29.6	30.1	37.6	.0036	41.6	27.7	28.3	33.5	.0035	41.9
9	29.8	30.3	36.8	.0035	42.0	30.0	30.5	36.0	.0034	42.3	26.7	27.5	29.1	.0030	43.1
10	31.1	31.7	34.4	.0032	42.7	30.0	30.6	21.6	.0021	45.5	28.6	29.4	26.8	.0028	43.7
11	31.0	31.5	32.0	.0029	43.5	30.6	31.1	33.6	.0031	43.0	29.3	29.9	24.6	.0025	44.4
Noon.	29.4	29.8	50.6	.0049	38.4	31.0	31.4	45.4	.0040	40.7	27.1	27.9	23.1	.0024	44.6
1h	28.3	28.7	53.9	.0056	37.0	31.2	31.7	31.2	.0028	43.7	27.6	28.3	21.5	.0024	44.7
2	28.8	29.4	27.6	.0028	43.7	29.7	30.3	22.8	.0022	45.0	30.3	30.9	20.4	.0019	45.9
3	31.5	32.1	27.5	.0026	44.1	30.6	31.2	22.0	.0021	45.3	27.4	28.0	35.0	.0036	41.4
4	32.8	33.4	27.6	.0026	44.6	30.1	30.7	21.2	.0020	45.6	25.6	26.2	41.4	.0048	38.5
5	32.0	32.5	27.5	.0024	45.0	30.4	31.0	20.0	.0019	46.0	25.4	26.0	42.0	.0049	38.2
6	30.4	31.0	20.0	.0019	46.0	30.0	30.6	21.6	.0021	45.5	25.3	25.9	42.3	.0050	38.0
7	29.8	30.7	31.6	.0032	42.8	29.8	30.5	27.8	.0026	44.1	25.8	26.6	18.6	.0024	45.0
8	28.2	28.7	43.2	.0045	39.5	30.5	31.0	34.0	.0031	42.8	24.4	25.0	45.0	.0056	36.6
9	26.5	27.0	49.0	.0054	37.2	29.8	30.4	22.4	.0022	45.2	23.9	24.6	36.8	.0049	38.6
10	26.3	26.8	49.6	.0056	37.0	30.8	31.5	22.6	.0022	45.1	24.4	25.0	45.0	.0056	36.6
11	—27.9	—28.4	44.4	0.0046	—39.2	—30.8	—31.6	22.6	0.0022	—45.1	—23.8	—24.5	37.0	0.0050	—38.4
Means.			38.74	0.0040	—40.80			31.49	0.0030	—43.10			36.26	0.0036	—41.70

Day.	JANUARY, 1872.														
	14.					15.					16.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	—24.3	—25.0	36.0	0.0045	—39.1	—23.0	—23.8	29.8	0.0043	—39.9	—13.0	—13.7	62.3	0.0145	—22.2
1	24.5	25.1	44.7	.0056	36.8	21.7	22.5	35.0	.0053	37.7	15.0	15.7	58.6	.0124	25.0
2	24.3	24.9	45.2	.0056	36.5	22.8	23.5	39.5	.0057	37.0	16.7	17.5	49.0	.0096	29.3
3	26.5	27.0	49.0	.0054	37.2	22.8	23.7	21.2	.0033	42.5	17.8	18.4	60.2	.0109	27.2
4	25.6	26.2	41.4	.0048	38.5	23.0	23.7	38.9	.0055	37.3	16.9	17.6	55.4	.0106	27.8
5	24.1	24.7	45.6	.0059	36.3	26.3	27.0	28.0	.0031	42.8	17.7	18.3	60.4	.0110	27.0
6	24.8	25.5	33.5	.0043	40.0	26.5	27.1	38.6	.0043	40.0	16.4	17.0	62.0	.0122	25.3
7	25.7	26.2	51.4	.0060	36.1	26.4	27.1	27.5	.0031	42.9	17.1	17.7	61.3	.0116	26.3
8	26.6	27.0	58.0	.0065	35.0	27.9	28.5	32.5	.0034	42.2	17.5	18.0	67.0	.0125	24.9
9	26.3	27.0	28.0	.0031	42.8	28.1	28.6	43.6	.0045	39.4	16.2	16.8	62.4	.0124	25.0
10	26.3	26.9	39.3	.0044	39.6	28.2	28.9	18.5	.0020	45.9	18.0	18.7	52.9	.0095	29.7
11	26.5	27.2	27.0	.0030	43.1	28.1	28.5	54.5	.0057	36.8	18.4	19.1	51.7	.0092	30.2
Noon.	26.2	26.9	28.3	.0032	42.6	26.2	26.8	39.6	.0045	39.4	18.2	18.6	72.4	.0130	24.1
1h	26.4	27.1	27.5	.0031	42.9	25.0	25.6	43.2	.0053	37.5	22.9	22.9	100.0	.0138	22.9
2	25.6	26.3	30.1	.0036	41.4	22.1	23.0	24.0	.0037	41.2	24.4	24.6	81.4	.0105	28.0
3	26.1	26.9	17.4	.0021	45.6	21.2	21.8	52.4	.0080	32.3	25.3	25.6	70.8	.0087	31.2
4	26.4	27.1	27.5	.0031	42.9	19.3	19.9	56.3	.0095	29.4	27.6	28.0	56.0	.0059	36.2
5	24.6	25.1	53.8	.0068	34.6	18.7	19.4	50.8	.0089	30.8	27.5	28.2	22.0	.0024	44.5
6	24.5	25.1	44.7	.0056	36.8	13.0	13.7	62.3	.0145	22.2	29.6	30.0	50.0	.0047	38.7
7	25.2	25.6	60.8	.0076	33.1	12.6	13.3	62.7	.0149	21.5	31.2	31.7	31.2	.0028	43.7
8	26.1	26.4	69.6	.0081	32.1	12.1	12.8	63.4	.0155	20.9	29.1	29.9	40.6	.0037	41.2
9	26.6	27.0	58.0	.0065	35.0	13.0	13.7	62.3	.0145	22.2	28.6	29.3	45.3	.0042	39.9
10	26.9	27.3	57.4	.0064	35.4	12.6	13.4	57.2	.0136	23.2	29.6	30.0	50.0	.0047	38.7
11	—22.3	—23.0	41.0	0.0059	—36.2	—13.0	—13.7	62.3	0.0145	—22.2	—25.7	—26.5	19.0	0.0025	—44.8
Means.			42.30	0.0050	—38.32			43.50	0.0074	—34.47			52.12	0.0089	—34.62

JANUARY, 1872.

Day.	17.					18.					19.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	—24.1	—24.9	27.2	0.0035	—41.8	—30.4	—30.9	34.4	0.0032	—42.7	—27.5	—28.0	46.0	0.0048	—38.6
1	22.8	23.7	21.2	.0033	42.5	30.4	30.9	34.4	.0032	42.7	26.9	27.6	25.0	.0028	43.7
2	23.7	24.4	37.2	.0050	38.3	30.8	31.3	32.8	.0030	43.3	29.7	30.1	49.7	.0047	38.9
3	18.7	19.2	65.4	.0113	26.6	29.3	29.9	24.6	.0025	44.4	27.1	27.6	47.2	.0051	38.1
4	18.5	19.1	58.7	.0103	28.3	33.2	33.8	24.9	.0024	44.5	27.0	27.5	47.5	.0052	37.9
5	23.5	24.1	46.8	.0063	35.6	31.0	31.7	25.3	.0024	44.6	28.0	28.5	44.0	.0046	39.3
6	23.4	24.1	37.8	.0052	37.8	30.6	31.2	25.6	.0024	44.7	28.5	29.0	42.0	.0042	40.0
7	24.2	24.9	36.2	.0046	39.0	31.0	31.6	26.0	.0024	44.8	26.4	27.0	39.0	.0043	39.8
8	27.2	27.8	35.8	.0038	41.0	30.7	31.3	26.3	.0024	44.9	26.1	26.7	39.9	.0046	39.3
9	29.1	29.6	39.6	.0039	40.9	31.1	31.7	26.7	.0024	45.0	28.3	28.8	42.8	.0044	39.6
10	29.4	29.8	50.6	.0049	38.4	32.1	32.6	27.0	.0023	45.1	25.8	26.6	18.6	.0024	45.0
11	29.5	30.0	38.0	.0036	41.4	30.2	30.9	36.8	.0037	41.8	23.5	24.1	46.8	.0063	35.6
Noon.	31.0	31.3	60.1	.0052	37.9	27.3	27.8	46.6	.0050	38.4	25.7	26.3	41.1	.0048	38.7
1^h	29.9	30.4	36.4	.0034	42.2	27.6	28.1	45.6	.0048	38.8	24.5	25.1	44.7	.0056	36.8
2	29.5	29.9	50.3	.0048	38.5	27.3	28.0	23.0	.0025	44.3	26.5	27.0	49.0	.0054	37.2
3	28.0	28.5	44.0	.0046	39.3	29.7	30.3	22.8	.0022	45.0	24.5	25.1	44.7	.0056	36.8
4	29.5	30.0	38.0	.0036	41.4	30.9	31.3	45.8	.0041	40.6	26.4	26.9	49.3	.0055	37.1
5	29.2	29.8	25.2	.0026	44.3	24.8	25.8	40.9	.0038	41.3	24.4	24.9	54.2	.0068	34.3
6	28.3	28.9	30.5	.0031	42.8	29.8	30.3	36.8	.0035	42.0	25.7	26.3	41.1	.0048	38.7
7	27.3	27.9	35.4	.0037	41.3	29.1	29.6	39.6	.0039	40.9	23.8	24.4	46.2	.0061	36.0
8	27.3	27.9	35.4	.0037	41.3	26.9	27.4	47.8	.0052	37.8	22.4	22.8	66.4	.0094	29.5
9	27.9	28.4	44.4	.0046	39.2	29.7	30.5	45.5	.0048	38.7	24.5	25.1	44.7	.0056	36.8
10	28.8	29.3	40.8	.0041	40.6	28.2	28.7	43.2	.0045	39.5	25.7	26.1	59.8	.0072	33.8
11	—29.6	—30.1	38.0	0.0036	—41.4	—27.7	—28.4	21.0	0.0023	—44.9	—26.6	—27.1	48.7	0.0054	—37.3
Means.			40.54	0.0047	—39.24			33.47	0.0033	—42.53			44.93	0.0052	—37.87

JANUARY, 1872.

Day.	20.					21.					22.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	—26.4	—26.9	49.3	0.0055	—37.1	— 5.7	— 6.3	75.7	0.0254	—11.4	— 7.2	— 7.7	78.3	0.0245	—11.9
1	25.5	26.1	41.7	.0049	38.4	5.1	5.8	72.2	.0250	11.6	7.5	8.1	73.9	.0227	13.5
2	20.6	21.3	46.4	.0073	33.6	4.6	5.2	76.8	.0271	10.0	7.3	8.0	69.6	.0214	14.6
3	22.0	22.7	42.2	.0061	35.9	5.2	5.7	87.8	.0263	3.4	— 1.4	2.0	80.0	.0326	6.1
4	14.9	15.9	40.2	.0088	30.8	5.6	6.2	75.8	.0255	11.2	+ 1.2	— 1.0	49.6	.0160	4.1
5	12.8	13.5	62.5	.0147	21.9	6.0	6.6	76.4	.0249	11.7	0.6	+ 0.2	87.9	.0391	2.2
6	13.0	13.8	56.4	.0132	23.8	6.1	6.8	71.2	.0235	12.8	0.6	0.2	87.9	.0391	2.2
7	13.4	14.2	55.6	.0128	24.4	5.6	6.2	75.8	.0255	11.2	0.7	0.0	78.7	.0353	4.4
8	13.0	13.7	62.3	.0144	22.2	4.6	5.3	72.7	.0258	11.0	2.4	1.5	74.5	.0361	3.9
9	13.2	13.9	62.1	.0143	22.4	3.9	4.7	70.3	.0256	11.1	2.3	1.6	79.9	.0386	2.5
10	13.0	13.9	51.2	.0120	25.5	3.7	4.5	70.5	.0259	10.8	2.1	1.3	77.0	.0368	3.5
11	13.2	13.8	67.4	.0157	20.8	3.4	3.9	86.9	.0277	1.4	1.7	1.0	79.6	.0374	3.2
Noon.	13.1	13.6	73.4	.0169	19.3	3.2	3.8	78.2	.0294	8.3	1.5	0.9	82.3	.0382	2.6
1^h	11.7	12.5	59.0	.0147	21.8	2.5	3.1	78.9	.0305	7.4	1.7	1.0	79.6	.0374	3.2
2	11.3	11.9	70.1	.0178	18.4	2.3	2.9	79.1	.0309	7.2	2.3	1.7	82.8	.0399	1.7
3	11.2	11.7	75.3	.0191	16.7	1.6	2.3	75.7	.0309	7.2	2.6	2.0	83.0	.0406	1.4
4	10.5	11.3	60.7	.0161	20.1	1.1	1.7	80.3	.0332	5.8	2.7	2.0	80.3	.0395	2.1
5	9.5	10.1	71.9	.0200	15.9	0.8	1.7	71.3	.0298	8.1	2.5	1.9	82.9	.0404	1.5
6	8.6	9.4	63.6	.0186	17.3	1.0	1.8	75.0	.0307	7.3	2.7	2.0	80.3	.0395	2.1
7	8.3	9.0	68.0	.0204	15.7	1.4	2.0	80.0	.0326	6.1	3.6	3.0	83.7	.0429	0.2
8	9.3	9.8	77.2	.0215	14.4	0.9	1.5	80.5	.0336	5.5	3.3	2.7	83.6	.0421	0.6
9	7.6	8.2	73.8	.0225	13.6	1.5	2.2	75.8	.0311	7.0	3.1	2.4	80.7	.0404	1.7
10	7.3	7.7	83.0	.0256	11.0	2.2	2.7	83.0	.0325	6.1	1.7	1.0	79.6	.0374	3.2
11	— 5.9	— 6.5	75.5	0.0250	—11.6	— 4.6	— 5.0	84.9	0.0297	— 8.0	+ 0.7	+ 0.1	81.7	0.0366	— 3.6
Means.			62.03	0.0153	—22.19			77.28	0.0285	— 8.40			78.64	0.0356	— 4.00

JANUARY, 1872.

Day.	23.					24.					25.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0ʰ	— 3.3	— 3.8	82.2	0.0307	— 7.3	—21.6	—22.1	59.8	0.0090	—30.4	—12.2	—12.8	68.4	0.0167	—19.5
1	4.8	5.4	77.6	.0268	10.2	21.9	22.5	51.0	.0074	33.3	14.9	15.6	58.8	.0126	24.8
2	6.4	7.0	75.0	.0243	12.1	23.6	24.3	37.4	.0051	38.1	13.1	13.5	78.5	.0182	17.9
3	7.5	8.2	69.6	.0214	14.6	23.6	24.4	28.2	.0039	40.8	19.0	19.5	64.5	.0110	27.0
4	9.4	10.0	72.0	.0202	15.8	23.5	24.1	46.8	.0063	35.6	20.7	21.4	46.2	.0073	33.8
5	11.0	11.6	71.4	.0182	18.0	24.1	24.6	54.8	.0071	33.9	22.7	23.4	39.8	.0057	36.8
6	12.0	12.5	74.5	.0182	17.7	24.9	25.5	43.5	.0054	37.4	24.7	25.3	44.1	.0055	37.1
7	13.0	13.5	73.5	.0170	19.2	23.5	24.0	56.0	.0075	33.0	30.2	30.6	48.2	.0014	39.5
8	12.5	13.0	74.0	.0176	18.5	20.5	20.9	69.1	.0109	27.0	28.6	29.0	53.0	.0053	37.4
9	12.9	13.5	67.5	.0159	20.7	20.0	20.6	54.8	.0089	30.7	26.7	27.2	48.4	.0053	37.5
10	14.8	15.4	64.6	.0139	22.8	24.7	25.1	61.8	.0079	32.6	24.2	25.2	42.8	.0051	37.9
11	13.5	14.1	66.8	.0152	21.4	17.5	18.3	47.0	.0088	30.8	23.7	34.4	37.2	.0050	38.3
Noon.	12.2	12.8	68.4	.0166	19.6	18.3	19.0	52.0	.0092	30.0	22.5	23.2	40.4	.0058	36.5
1ʰ	11.9	12.6	63.8	.0157	20.6	17.5	18.3	47.0	.0088	30.8	22.5	23.1	49.7	.0069	34.1
2	12.1	12.7	68.6	.0167	19.5	17.5	18.3	47.0	.0088	30.8	20.2	20.7	62.3	.0100	28.6
3	15.8	16.2	75.8	.0153	21.2	14.5	15.3	53.4	.0117	26.0	15.5	16.4	45.2	.0094	29.8
4	18.5	19.0	66.0	.0115	26.3	15.2	15.9	58.2	.0122	25.3	15.2	15.7	70.6	.0147	21.9
5	19.5	20.0	63.0	.0106	27.7	15.5	16.2	57.6	.0119	25.7	16.4	16.9	69.1	.0135	23.5
6	20.5	21.0	62.0	.0098	29.0	13.9	14.7	54.6	.0123	25.1	21.1	21.4	76.6	.0118	26.2
7	20.2	20.7	62.3	.0100	28.6	13.5	14.4	50.2	.0115	26.3	24.3	24.7	64.6	.0089	30.9
8	22.1	22.7	50.6	.0072	33.6	13.3	14.0	62.0	.0142	22.5	24.2	24.7	56.6	.0077	32.6
9	20.5	21.2	46.6	.0074	33.4	14.4	15.2	53.6	.0118	25.9	27.5	28.0	46.0	.0048	38.6
10	18.2	18.8	59.4	.0105	27.8	11.7	12.6	48.2	.0122	25.0	25.7	26.3	41.1	.0048	38.7
11	—18.4	—19.0	59.0	0.0103	—28.1	—11.3	—12.1	59.8	.0152	—21.3	—26.3	—26.9	39.3	0.0044	—39.6
Means.			67.26	0.0159	—21.24			52.24	0.0095	—29.93			50.10	0.0085	—32.0

JANUARY, 1872.

Day.	26.					27.					28.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0ʰ	—23.6	—24.3	37.4	0.0051	—38.1	—23.3	—23.8	56.4	0.0076	—32.7	—28.3	—28.8	42.8	0.0044	—39.6
1	26.2	26.8	39.6	.0045	39.4	23.2	23.7	56.6	.0077	32.6	27.6	28.1	45.6	.0048	38.8
2	32.8	33.2	38.2	.0029	43.0	22.5	23.0	58.0	.0082	31.7	26.2	26.8	39.6	.0045	39.4
3	29.3	30.0	41.1	.0042	40.1	24.7	25.4	34.0	.0043	39.8	22.8	23.5	39.5	.0057	37.0
4	24.7	25.3	44.1	.0055	37.1	23.1	23.5	65.0	.0090	30.7	23.8	24.6	27.8	.0038	41.2
5	20.6	21.3	46.4	.0073	33.6	24.9	25.6	33.0	.0042	40.2	25.8	26.4	40.8	.0047	38.8
6	20.1	20.9	40.3	.0064	34.9	25.2	25.9	31.5	.0039	40.8	27.0	27.4	57.2	.0063	35.5
7	18.5	19.1	58.7	.0103	28.3	27.6	28.0	56.0	.0059	36.2	27.5	28.0	46.0	.0048	38.6
8	16.9	17.4	68.2	.0130	24.0	24.9	25.6	33.0	.0042	40.2	23.6	24.0	64.0	.0086	31.2
9	19.3	19.9	56.3	.0095	29.4	27.5	27.5	100.0	.0108	100.0	22.7	23.1	65.8	.0092	29.9
10	14.5	15.0	72.0	.0155	20.9	28.8	29.4	27.6	.0028	43.7	22.5	23.1	49.7	.0069	34.1
11	14.1	14.7	65.6	.0146	22.1	25.1	25.4	71.2	.0088	31.0	24.2	24.7	54.6	.0070	34.0
Noon.	14.1	14.7	65.6	.0146	22.1	28.1	28.7	31.5	.0033	42.5	27.8	28.1	66.8	.0070	34.2
1ʰ	14.3	14.8	72.2	.0157	20.7	20.9	21.8	29.0	.0046	38.8	28.5	28.9	53.3	.00[illegible]4	37.2
2	14.5	15.1	61.9	.0142	22.5	22.6	23.4	31.4	.0046	39.1	28.5	29.2	48.1	.0049	38.4
3	16.9	17.7	48.6	.0094	29.7	24.9	25.6	33.0	.0042	40.2	28.3	28.8	42.8	.0044	39.6
4	20.5	20.9	69.1	.0109	27.0	24.9	25.6	33.0	.0042	40.2	31.6	32.1	29.5	.0026	44.3
5	20.3	20.8	62.2	.0099	28.7	27.5	27.8	67.4	.0072	33.7	30.6	31.3	42.5	.0034	42.1
6	23.4	23.7	73.3	.0100	28.8	25.3	25.8	52.4	.0063	35.6	32.5	32.8	55.6	.0043	39.8
7	23.2	23.6	64.8	.0090	30.8	29.6	30.0	50.0	.0047	38.7	32.0	32.4	41.4	.0034	42.0
8	22.3	22.8	58.4	.0083	31.5	28.1	28.6	43.6	.0045	39.4	31.3	31.8	30.8	.0027	43.8
9	18.6	19.2	58.4	.0102	28.5	26.7	27.4	26.0	.0029	43.4	32.0	32.6	25.8	.0023	44.8
10	18.7	19.3	58.1	.0101	28.7	26.5	27.1	38.6	.0043	40.0	30.2	30.8	20.8	.0020	45.8
11	—22.3	—22.9	50.2	0.0070	—33.9	—26.3	—26.9	39.3	0.0044	—39.6	—37.1	—37.5	21.5	0.0025	—44.7
Means.			56.40	0.0095	—30.57			45.73	0.0055	—40.45			43.81	0.0048	—38.5

Day.	JANUARY, 1872.														
	29.					30.					31.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	—31. 7	—32. 2	21. 5	0. 0025	—44. 7	— 8. 5	— 9. 2	67. 8	0. 0202	—16. 0	— 4. 4	— 5. 0	77. 0	0. 0274	— 9. 7
1	35. 6	36. 0	21. 5	. 0025	44. 7	8. 2	8. 9	68. 2	. 0205	15. 6	4. 3	5. 0	73. 0	. 0263	10. 5
2	25. 0	25. 8	22. 2	. 0029	43. 5	8. 2	8. 8	73. 2	. 0217	14. 3	4. 5	5. 1	76. 9	. 0273	9. 9
3	26. 8	27. 4	37. 4	. 0041	40. 4	9. 2	9. 8	72. 2	. 0204	15. 5	7. 0	7. 7	70. 3	. 0221	13. 9
4	24. 0	24. 4	63. 2	. 0084	31. 7	9. 8	10. 5	66. 5	. 0184	17. 7	7. 1	7. 8	70. 2	. 0220	14. 1
5	22. 4	22. 9	58. 2	. 0082	31. 6	10. 7	11. 4	65. 6	. 0172	19. 0	7. 6	8. 3	69. 4	. 0212	14. 8
6	20. 8	21. 4	53. 2	. 0084	31. 9	9. 9	10. 6	66. 4	. 0182	17. 9	7. 8	8. 5	69. 0	. 0210	15. 0
7	17. 7	18. 4	53. 8	. 0098	29. 0	8. 6	9. 3	67. 7	. 0200	16. 2	8. 4	9. 1	67. 9	. 0203	15. 9
8	15. 4	16. 2	51. 6	. 0108	27. 3	7. 4	8. 2	65. 6	. 0203	15. 7	9. 8	10. 5	66. 5	. 0183	17. 7
9	16. 2	16. 9	56. 2	. 0112	26. 7	5. 9	6. 7	67. 3	. 0226	13. 7	9. 5	10. 2	66. 8	. 0187	17. 3
10	14. 8	15. 4	64. 6	. 0139	22. 8	6. 5	7. 2	70. 8	. 0229	13. 3	10. 2	10. 9	66. 1	. 0179	18. 3
11	13. 3	14. 1	55. 8	. 0129	24. 3	8. 5	9. 0	78. 0	. 0226	13. 5	11. 3	11. 8	75. 2	. 0190	16. 8
Noon.	14. 6	15. 6	40. 8	. 0091	30. 1	8. 4	9. 0	73. 0	. 0215	14. 6	10. 1	10. 7	71. 3	. 0192	16. 8
1h	14. 5	15. 3	53. 4	. 0117	26. 0	6. 5	7. 5	60. 0	. 0191	16. 9	10. 9	11. 7	60. 3	. 0156	20. 8
2	13. 7	14. 7	42. 9	. 0100	28. 7	6. 7	7. 7	59. 6	. 0188	17. 3	11. 5	12. 1	69. 8	. 0175	18. 7
3	13. 0	13. 8	56. 4	. 0132	23. 8	6. 7	7. 6	62. 8	. 0200	15. 9	11. 3	11. 9	70. 1	. 0178	18. 4
4	12. 6	13. 6	45. 8	. 0111	26. 8	8. 7	9. 5	63. 5	. 0185	17. 5	13. 6	14. 3	61. 4	. 0139	23. 0
5	12. 3	13. 1	57. 8	. 0140	22. 8	8. 3	8. 9	73. 1	. 0216	14. 5	15. 0	15. 5	71. 0	. 0149	21. 6
6	13. 3	13. 9	67. 1	. 0154	21. 1	8. 0	8. 7	68. 6	. 0208	15. 2	12. 4	12. 9	74. 1	. 0177	18. 3
7	12. 2	12. 8	68. 4	. 0166	19. 6	11. 2	11. 8	70. 2	. 0179	18. 3	13. 9	14. 4	72. 6	. 0161	20. 3
8	10. 4	11. 2	60. 8	. 0163	19. 9	6. 2	6. 9	71. 1	. 0234	12. 9	12. 5	13. 1	67. 9	. 0163	20. 0
9	10. 5	11. 3	60. 7	. 0162	20. 0	3. 6	4. 6	63. 8	. 0235	12. 9	12. 2	12. 8	68. 4	. 0166	19. 6
10	10. 2	10. 9	66. 1	. 0179	18. 3	3. 4	4. 5	60. 5	. 0226	13. 7	13. 7	14. 2	72. 8	. 0163	20. 1
11	— 8. 8	— 9. 4	72. 6	0. 0209	—15. 0	— 6. 0	— 6. 7	71. 3	0. 0236	12. 7	—17. 0	—17. 6	61. 4	0. 0117	—26. 2
Means.			52. 17	0. 0112	—37. 95			67. 78	0. 0207	—15. 45			69. 56	0. 0190	—17. 40

Day.	FEBRUARY, 1872.														
	1.					2.					3.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	—19. 0	—19. 8	43. 4	0. 0074	—33. 2	—25. 3	—25. 9	42. 3	0. 0050	—38. 0	—29. 6	—30. 1	37. 6	0. 0036	—41. 6
1	18. 5	19. 2	51. 4	. 0091	30. 4	25. 7	26. 3	41. 1	. 0048	38. 7	30. 6	31. 2	34. 4	. 0032	42. 7
2	17. 8	18. 6	46. 2	. 0085	31. 3	25. 9	26. 4	50. 8	. 0059	36. 4	31. 2	31. 7	31. 2	. 0028	43. 7
3	19. 0	19. 6	57. 2	. 0098	29. 1	26. 7	27. 2	48. 4	. 0053	37. 5	30. 8	31. 4	31. 4	. 0028	43. 7
4	19. 3	20. 0	49. 0	. 0084	31. 4	26. 6	27. 1	48. 7	. 0054	37. 3	31. 4	32. 0	31. 4	. 0028	43. 6
5	19. 4	20. 1	48. 8	. 0083	31. 2	26. 6	27. 2	38. 2	. 0042	40. 1	31. 1	31. 6	31. 6	. 0028	43. 6
6	19. 4	20. 1	48. 8	. 0083	31. 2	27. 1	27. 6	47. 2	. 0051	38. 1	31. 1	31. 6	31. 6	. 0028	43. 6
7	20. 0	20. 6	54. 8	. 0089	30. 7	26. 6	27. 1	48. 7	. 0054	37. 3	30. 9	31. 4	32. 4	. 0029	43. 4
8	20. 7	21. 3	53. 4	. 0084	31. 8	26. 2	26. 7	49. 9	. 0057	36. 8	29. 9	30. 4	36. 4	. 0034	42. 2
9	20. 5	21. 0	62. 0	. 0098	29. 0	28. 4	28. 8	53. 6	. 0055	37. 1	30. 1	30. 6	35. 6	. 0033	42. 4
10	19. 9	20. 7	40. 9	. 0066	34. 6	28. 5	29. 1	29. 4	. 0030	43. 2	29. 5	30. 0	38. 0	. 0036	41. 4
11	21. 5	22. 0	60. 0	. 0090	30. 3	26. 6	27. 5	27. 9	. 0030	43. 2	29. 5	29. 9	50. 3	. 0048	38. 5
Noon.	20. 5	21. 3	39. 1	. 0062	35. 7	26. 6	27. 3	26. 5	. 0030	43. 2	29. 6	30. 2	23. 2	. 0023	44. 9
1h	20. 9	21. 7	37. 9	. 0058	36. 5	25. 5	26. 2	30. 4	. 0037	41. 2	29. 3	29. 7	50. 9	. 0050	38. 3
2	21. 5	22. 1	51. 8	. 0078	32. 7	24. 5	24. 9	62. 2	. 0080	32. 2	27. 5	27. 9	56. 2	. 0060	36. 0
3	21. 4	21. 8	68. 2	. 0103	28. 3	24. 3	24. 8	54. 4	. 0069	34. 2	28. 5	29. 0	42. 0	. 0042	40. 0
4	21. 0	21. 7	45. 6	. 0070	34. 3	21. 8	22. 6	34. 6	. 0052	37. 9	27. 8	28. 6	46. 4	. 0046	39. 1
5	21. 4	21. 9	60. 2	. 0090	30. 1	20. 2	20. 8	54. 4	. 0087	31. 0	29. 3	29. 7	50. 9	. 0050	38. 3
6	21. 8	22. 6	34. 6	. 0052	37. 9	20. 6	21. 2	53. 6	. 0085	31. 6	28. 3	28. 8	42. 8	. 0044	39. 6
7	22. 3	22. 8	58. 4	. 0083	31. 5	23. 8	24. 3	55. 4	. 0073	33. 4	29. 6	30. 0	50. 0	. 0047	38. 7
8	21. 5	22. 5	54. 1	. 0076	32. 8	27. 3	27. 9	35. 4	. 0037	41. 3	30. 0	30. 4	48. 8	. 0045	39. 3
9	22. 5	23. 1	49. 7	. 0069	34. 1	25. 9	26. 3	59. 4	. 0071	34. 2	29. 2	29. 8	25. 2	. 0086	44. 3
10	23. 6	24. 2	46. 6	. 0062	35. 8	24. 5	25. 1	44. 7	. 0056	36. 8	27. 2	27. 8	35. 8	. 0038	41. 0
11	—24. 8	—25. 3	53. 4	. 0067	—34. 9	—24. 4	—25. 0	45. 0	0. 0056	—36. 6	—28. 1	—28. 6	39. 6	0. 0039	—40. 9
Means.			50. 65	0. 0075	—32. 45			45. 09	0. 0055	—37. 40			30. 57	0. 0082	—41. 20

Day.	FEBRUARY, 1872.														
	4.					5.					6.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	−27.8	−28.5	20.5	0.0023	−45.1	−28.6	−29.3	37.4	0.0041	−40.6	−26.5	−27.0	49.0	0.0054	−37.2
1	26.9	27.6	25.0	.0028	43.7	29.1	29.7	25.8	.0027	44.1	27.9	28.6	20.0	.0022	45.4
2	26.4	27.0	39.0	.0043	39.8	26.8	27.5	25.5	.0029	43.5	26.4	27.0	39.0	.0043	39.8
3	23.5	21.1	46.8	.0063	35.6	25.3	26.0	31.0	.0038	40.9	26.7	27.3	37.8	.0042	40.3
4	23.5	24.2	37.6	.0051	38.0	25.3	25.8	52.4	.0063	35.6	27.2	27.8	35.8	.0038	41.0
5	23.7	24.4	37.2	.0050	38.3	25.2	25.7	52.6	.0064	35.5	26.7	27.3	37.8	.0042	40.3
6	25.8	26.2	59.6	.0071	34.0	26.4	26.6	79.4	.0091	30.3	26.7	27.3	37.8	.0042	40.3
7	26.4	25.8	58.4	.0057	34.7	30.9	31.1	73.8	.0064	35.3	23.4	24.0	47.0	.0063	35.4
8	27.2	27.5	68.0	.0074	33.4	32.4	32.5	85.5	.0068	34.5	21.4	22.1	44.6	.0067	34.8
9	28.2	28.4	77.6	.0080	32.4	25.3	25.5	80.5	.0099	29.1	19.5	20.2	48.6	.0082	31.0
11	25.6	26.3	30.1	.0036	41.4	24.8	25.0	81.0	.0101	28.5	20.3	21.0	47.0	.0075	33.0
12	26.7	27.5	37.1	.0041	40.3	23.5	24.2	37.6	.0051	38.0	21.6	22.4	35.4	.0054	37.5
Noon.	28.0	28.5	41.0	.0046	39.3	23.4	23.8	64.4	.0088	31.0	26.3	26.6	69.4	.0080	32.3
1h	25.5	27.0	49.0	.0054	37.2	26.5	27.0	49.0	.0054	37.2	26.4	27.5	64.8	.0077	32.8
2	25.6	26.2	41.4	.0048	38.5	23.0	23.7	38.9	.0055	37.3	25.5	25.9	60.2	.0073	33.4
3	26.9	27.5	37.0	.0041	40.6	24.3	25.0	36.0	.0045	39.1	23.2	24.0	29.0	.0041	40.2
4	28.3	28.7	53.9	.0056	37.0	22.4	23.0	50.0	.0070	34.0	23.5	23.9	64.2	.0087	31.1
5	28.2	28.7	43.2	.0045	39.5	23.5	21.2	37.6	.0051	38.0	26.0	26.6	40.2	.0046	39.1
6	31.3	31.8	30.8	.0027	43.8	24.7	25.2	53.6	.0067	34.7	26.5	26.8	69.2	.0078	32.5
7	27.5	28.1	34.5	.0036	41.6	22.6	23.2	49.4	.0069	34.3	25.4	25.9	52.2	.0062	35.7
8	27.6	28.1	45.6	.0048	38.8	26.1	26.6	50.2	.0058	36.7	28.6	29.2	28.8	.0029	43.3
9	27.9	28.5	32.5	.0034	42.2	26.4	26.9	49.3	.0055	37.1	29.1	29.6	39.6	.0039	40.9
10	25.7	26.4	29.8	.0036	41.6	27.2	27.8	35.8	.0038	41.0	29.4	30.1	40.9	.0045	39.5
11	−26.5	−27.0	49.0	0.0054	−37.2	−25.7	−26.5	19.0	0.0025	−44.8	−25.3	−25.9	42.3	0.0050	−38.0
Means.			42.82	0.0048	−38.92			49.82	0.0059	−36.71			45.02	0.0055	−37.28

Day.	FEBRUARY, 1872.														
	7.					8.					9.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	−25.8	−26.4	59.2	0.0070	−34.3	−18.9	−19.7	43.6	0.0075	−33.1	−19.4	−19.9	63.3	0.0106	−27.6
1	26.5	27.0	49.0	.0054	37.2	17.7	18.3	60.4	.0110	27.1	19.3	19.8	63.6	.0107	27.5
2	27.6	28.1	45.6	.0048	38.8	16.1	16.6	69.4	.0138	23.1	17.9	18.5	60.0	.0108	27.4
3	27.1	27.6	47.2	.0051	38.1	19.4	20.4	28.0	.0046	39.0	17.5	18.1	60.8	.0112	26.8
4	27.9	28.4	54.8	.0057	36.7	18.2	19.1	38.7	.0070	34.1	17.9	18.5	60.0	.0108	27.4
5	28.6	29.0	53.0	.0053	37.4	18.9	19.7	43.6	.0075	33.1	19.4	19.9	63.6	.0106	27.6
6	29.3	29.7	50.9	.0050	38.3	19.8	20.5	48.0	.0079	30.5	19.4	19.9	63.6	.0106	27.6
7	30.8	31.2	46.2	.0041	40.4	20.5	21.2	46.6	.0074	33.4	19.4	19.9	63.6	.0106	27.6
8	31.8	32.0	72.0	.0058	36.3	20.4	21.2	39.4	.0063	35.5	19.5	20.0	63.0	.0106	27.7
9	30.6	30.9	61.2	.0054	37.3	19.6	20.5	34.5	.0057	36.5	20.6	21.3	46.4	.0073	33.6
10	28.4	28.8	53.6	.0055	37.1	19.4	19.9	63.3	.0106	27.6	21.5	22.1	51.8	.0078	32.7
11	28.6	29.5	64.3	.0064	35.4	23.7	24.5	28.0	.0039	41.0	19.1	19.8	49.6	.0085	31.2
Noon.	29.5	29.7	75.6	.0073	33.7	23.1	23.7	47.9	.0066	35.0	20.6	21.5	30.5	.0049	38.2
1h	28.5	29.4	68.3	.0064	35.4	23.1	23.8	38.6	.0054	37.4	20.6	21.5	30.5	.0049	38.2
2	30.4	30.7	61.6	.0055	37.1	23.6	24.1	55.8	.0074	33.1	18.8	19.7	36.9	.0064	35.1
3	30.1	30.5	48.5	.0045	39.4	24.3	24.7	62.6	.0082	32.0	19.5	20.1	55.8	.0094	29.7
4	24.5	25.0	54.0	.0068	34.4	24.6	25.5	15.0	.0021	46.0	16.7	17.6	42.8	.0082	31.5
5	25.5	25.8	70.4	.0085	31.4	24.5	25.3	25.2	.0033	42.5	20.6	21.2	53.6	.0085	31.6
6	26.1	26.6	50.2	.0058	36.7	23.9	24.7	27.6	.0037	41.4	21.9	22.6	42.6	.0062	35.8
7	25.9	26.5	40.5	.0047	39.0	22.4	22.8	66.4	.0094	29.5	21.5	22.2	44.2	.0066	35.0
8	25.6	26.1	51.7	.0061	35.9	23.6	24.2	46.6	.0062	35.8	20.9	21.6	45.8	.0071	34.2
9	18.8	19.4	57.8	.0100	28.9	19.8	20.4	55.2	.0091	30.3	21.5	22.1	51.8	.0078	32.7
10	16.6	17.1	69.1	.0135	23.5	18.4	18.8	72.2	.0128	24.4	19.3	19.8	63.6	.0107	27.5
11	−17.9	−18.5	60.0	0.0108	−27.4	−18.5	−19.0	66.0	0.0115	−26.3	−22.7	−23.3	49.1	0.0068	−34.4
Means.			56.86	0.0065	−35.42			46.77	0.0075	−33.65			52.10	0.0087	−35.36

FEBRUARY, 1872.

Day.	10.					11.					12.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	−22.9	−23.5	48.5	0.0067	−34.7	−7.4	−8.3	61.7	0.0190	−17.1	−18.8	−19.4	57.8	0.0100	−28.9
1	21.2	21.8	52.4	.0080	32.3	7.8	8.8	57.4	.0172	19.0	19.7	20.2	62.8	.0105	28.1
2	21.6	22.2	51.6	.0077	32.8	9.8	10.8	52.6	.0145	22.0	19.5	20.1	55.8	.0094	29.7
3	23.3	23.7	64.6	.0089	30.9	11.0	11.4	80.0	.0206	15.4	20.2	20.8	54.4	.0087	31.0
4	21.1	21.4	76.6	.0118	26.2	11.4	11.9	75.1	.0189	17.0	22.1	22.7	50.6	.0072	33.6
5	19.4	19.8	71.2	.0119	25.6	10.5	11.3	60.7	.0161	20.1	24.2	24.8	45.4	.0058	36.4
6	16.9	17.4	68.2	.0130	24.1	9.4	9.6	90.8	.0252	11.4	21.5	22.2	44.2	.0066	35.0
7	15.5	16.1	63.8	.0131	24.0	6.8	7.6	66.4	.0212	14.8	21.5	22.2	44.2	.0066	35.0
8	15.8	16.5	57.0	.0116	26.2	5.8	6.1	88.0	.0291	8.4	20.7	21.4	46.2	.0073	33.8
9	15.4	15.8	76.2	.0157	20.6	7.8	8.4	73.6	.0222	13.8	18.5	19.4	37.8	.0067	34.5
10	12.2	12.8	68.4	.0166	19.6	11.3	11.5	89.9	.0228	13.5	17.2	17.9	55.1	.0103	28.3
11	14.2	14.6	77.4	.0170	19.2	14.5	15.3	53.4	.0117	26.1	15.5	16.3	51.4	.0107	27.5
Noon.	13.9	14.5	66.0	.0148	21.9	14.1	14.7	65.6	.0146	22.1	14.9	15.7	52.6	.0113	26.7
1h	14.9	15.5	64.5	.0138	23.0	15.5	16.2	57.6	.0119	25.7	16.8	17.6	48.8	.0095	29.5
2	14.7	15.4	59.2	.0127	24.5	16.6	17.5	43.0	.0083	31.4	17.3	17.8	67.4	.0126	24.7
3	15.5	16.1	63.8	.0131	24.0	16.5	17.2	55.8	.0110	27.2	15.4	15.9	70.2	.0145	22.1
4	10.7	11.7	50.6	.0134	23.5	17.1	17.7	61.3	.0116	26.3	18.8	19.3	65.1	.0112	26.7
5	11.6	12.3	64.4	.0161	20.2	17.3	17.7	73.6	.0139	23.0	19.4	19.8	71.2	.0019	25.6
6	10.7	11.7	50.6	.0134	23.5	17.5	18.1	60.8	.0112	26.8	21.4	22.2	36.2	.0055	37.1
7	14.2	14.8	65.4	.0145	22.2	17.8	18.3	66.7	.0122	25.4	15.4	16.0	64.0	.0132	23.8
8	11.6	12.3	64.4	.0161	20.2	18.1	18.7	59.6	.0106	27.7	15.4	15.9	70.2	.0145	22.1
9	11.5	12.2	64.6	.0162	20.0	17.4	18.1	55.2	.0101	28.6	13.7	14.4	61.2	.0138	23.1
10	10.3	10.9	71.1	.0190	17.0	17.9	18.7	45.9	.0084	31.5	11.8	12.6	58.8	.0146	22.0
11	−10.3	−11.0	66.0	0.0177	−18.4	−18.4	−19.1	51.7	0.0092	−30.2	−9.5	−10.1	71.9	0.0200	−15.9
Means.			63.60	0.0093	−23.94			64.64	0.0113	−21.85			55.97	0.0105	−28.39

FEBRUARY, 1872.

Day.	13.					14.					15.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	−10.1	−10.9	61.2	0.0167	−19.5	−22.5	−23.1	49.7	0.0069	−34.1	−33.3	−34.0	45.8	0.0025	−44.4
1	8.9	9.8	59.4	.0169	19.3	23.6	24.3	37.4	.0051	38.1	35.3	35.9	45.8	.0025	44.4
2	7.7	8.6	61.4	.0186	17.5	23.7	24.6	18.8	.0026	45.2	35.2	35.8	45.8	.0025	44.4
3	7.5	8.1	73.9	.0226	13.5	25.2	25.7	52.6	.0064	35.5	35.4	35.9	45.8	.0025	44.4
4	7.4	8.3	61.7	.0189	17.1	25.7	26.2	51.4	.0060	36.1	35.8	36.3	45.8	.0025	44.4
5	7.2	8.0	66.0	.0206	15.4	26.3	26.8	49.6	.0056	37.0	36.9	37.4	45.8	.0025	44.4
6	7.0	7.8	62.4	.0197	16.3	26.5	27.0	49.0	.0054	37.2	37.8	38.3	45.8	.0025	44.4
7	7.0	7.9	62.2	.0195	16.4	26.6	27.2	38.2	.0042	40.1	36.5	37.0	45.8	.0025	44.4
8	7.2	8.1	61.9	.0193	16.7	26.5	27.1	38.6	.0043	40.0	35.2	35.7	45.8	.0025	44.4
9	7.6	8.5	61.5	.0187	17.4	27.0	27.5	47.5	.0052	37.9	39.7	39.9	46.4	.0020	45.4
10	8.0	8.8	64.4	.0195	16.5	26.1	26.7	39.9	.0046	39.3	43.7	43.9	40.2	.0004	44.1
11	9.1	9.7	72.3	.0205	15.4	25.5	26.1	41.7	.0049	38.4	39.0	39.6	40.2	.0017	44.1
Noon.	13.7	14.3	66.4	.0150	21.7	29.0	29.2	76.6	.0075	33.2	44.1	44.7	40.2	.0017	44.1
1h	14.9	15.6	58.8	.0125	24.8	31.5	31.7	72.6	.0061	35.9	37.5	38.4	40.2	.0017	44.1
2	15.3	15.8	70.4	.0146	22.0	29.8	30.6	49.2	.0044	40.0	37.8	38.5	40.2	.0017	44.1
3	21.5	21.7	84.3	.0125	24.7	29.1	29.7	25.8	.0027	44.1	37.9	38.5	40.2	.0017	44.1
4	19.5	19.9	71.1	.0118	25.7	32.0	32.4	41.4	.0034	42.0	36.4	36.8	40.2	.0017	44.1
5	22.1	22.7	50.6	.0072	33.6	33.7	34.2	43.3	.0037	41.0	34.5	35.1	40.2	.0017	44.1
6	21.4	21.8	68.2	.0103	28.3	31.5	31.1	45.1	.0040	41.0	36.3	36.8	40.2	.0017	44.1
7	21.4	21.8	68.2	.0103	28.3	30.6	31.0	47.0	.0042	40.0	33.5	34.2	40.2	.0017	44.1
8	22.0	22.6	50.8	.0073	33.4	31.6	32.1	29.5	.0026	44.3	30.5	[illegible]	34.0	.0031	42.8
9	21.6	22.1	59.8	.0090	30.4	35.4	35.7	45.2	.0029	43.4	28.4	29.0	30.0	.0030	43.0
10	22.2	22.7	58.6	.0084	31.3	35.7	36.1	45.8	.0025	44.4	29.3	29.8	38.8	.0038	41.1
11	−21.1	−21.7	52.6	0.0081	−32.2	−33.8	−34.4	45.8	0.0025	44.4	−30.8	−31.5	30.7	0.0028	43.7
Means.			63.67	0.0141	−22.39			45.07	0.0045	−39.69			41.43	0.0022	−44.02

FEBRUARY, 1872.

Day.	16.					17.					18.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	—30.8	—31.4	30.7	0.0028	—43.7	—26.3	—26.9	39.3	0.0044	—39.6	— 6.2	— 7.1	63.8	0.0208	—15.2
1	34.0	34.5	30.7	.0028	43.7	24.4	24.8	62.4	.0081	32.1	+ 1.3	+ 0.2	67.5	.0311	— 7.1
2	32.1	32.7	30.7	.0028	43.7	24.3	24.8	54.4	.0069	34.2	7.5	6.8	83.7	.0513	+ 3.7
3	33.0	33.5	22.5	.0018	46.3	27.1	27.4	68.2	.0074	33.3	6.8	6.0	80.8	.0479	2.2
4	35.3	35.5	63.5	.0041	40.4	27.4	27.8	57.2	.0063	35.5	6.3	5.3	75.7	.0439	0.3
5	31.8	32.4	56.3	.0038	41.2	27.8	28.2	55.4	.0058	36.5	5.7	5.0	82.6	.0466	+ 1.6
6	34.3	34.6	49.2	.0034	42.1	28.6	29.0	53.0	.0053	37.4	+ 1.3	+ 0.3	70.4	.0324	— 6.2
7	30.8	31.5	50.4	.0043	40.1	28.2	28.6	54.2	.0056	36.9	— 0.2	— 1.1	71.9	.0309	7.3
8	31.3	32.0	50.4	.0043	40.1	28.7	29.5	44.7	.0045	39.7	1.0	1.7	76.3	.0321	6.5
9	29.5	30.4	50.4	.0043	40.1	30.2	30.7	35.2	.0033	42.5	1.5	2.2	75.8	.0311	7.0
10	28.6	29.4	50.4	.0043	40.1	30.5	31.1	54.7	.0049	38.7	0.5	1.4	71.6	.0303	7.7
11	29.1	29.5	51.5	.0051	38.1	30.6	30.8	74.2	.0066	34.8	0.7	1.5	74.3	.0313	7.0
Noon.	27.5	28.3	46.8	.0050	38.2	29.6	30.1	37.6	.0036	41.6	1.1	1.7	80.3	.0332	5.8
1h	25.4	26.0	42.0	.0049	38.2	27.9	28.7	28.4	.0032	43.2	0.8	1.7	71.3	.0298	8.1
2	26.5	27.3	30.7	.0035	41.4	25.6	26.6	28.4	.0032	43.2	0.7	1.7	68.3	.0285	8.9
3	23.4	24.3	19.4	.0029	44.6	23.5	24.4	19.2	.0028	44.8	1.5	2.3	73.4	.0397	8.1
4	23.6	24.5	19.0	.0027	45.0	21.2	21.9	45.2	.0068	34.5	1.5	2.4	70.2	.0284	9.0
5	24.3	24.8	54.4	.0069	34.2	20.7	21.5	38.5	.0060	36.1	2.1	3.0	69.0	.0273	9.8
6	24.4	24.8	62.4	.0081	32.1	19.5	20.2	48.6	.0082	31.0	2.7	3.7	65.3	.0249	11.6
7	26.9	27.5	37.0	.0041	40.6	18.7	19.6	37.2	.0065	34.9	2.9	3.9	65.1	.0245	11.9
8	26.4	26.8	58.4	.0067	34.7	18.3	18.8	66.2	.0117	26.1	3.2	4.3	60.7	.0230	13.4
9	26.0	26.6	40.2	.0046	39.1	15.5	16.1	63.8	.0131	23.9	3.5	4.6	60.4	.0234	13.8
10	21.2	24.7	54.6	.0070	34.0	14.6	15.4	53.2	.0116	26.2	3.6	4.7	60.3	.0222	14.0
11	—21.9	—25.5	43.2	0.0053	37.5	—13.9	—14.8	49.4	0.0111	—26.9	— 4.5	— 5.6	58.8	0.0209	—15.3
Means.			43.53	0.0041	—39.97			49.11	0.0065	—35.57			70.73	0.0314	— 7.33

FEBRUARY, 1872.

Day.	19.					20.					21.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	— 5.7	— 6.5	67.5	0.0229	—13.4	—20.7	—21.3	53.4	0.0084	—31.8	—26.6	—27.3	30.1	0.0036	—41.4
1	5.5	6.3	67.7	.0231	13.0	22.5	23.0	58.0	.0082	31.7	26.9	27.5	40.5	.0047	39.0
2	5.7	6.6	64.4	.0215	14.6	20.9	21.6	45.8	.0071	34.2	27.6	28.0	56.0	.0059	36.2
3	6.2	7.1	63.8	.0208	15.2	23.0	23.4	65.2	.0091	30.5	27.2	27.7	46.9	.0051	38.2
4	6.8	7.6	66.4	.0212	14.8	23.7	24.2	55.6	.0074	33.3	27.4	27.9	46.3	.0049	38.5
5	7.4	8.2	65.6	.0203	15.7	24.5	25.0	54.0	.0068	34.4	27.5	27.9	56.2	.0060	36.0
6	8.4	9.1	67.9	.0203	15.9	25.4	26.0	42.0	.0049	38.2	30.2	30.3	87.0	.0080	32.3
7	9.1	9.7	72.3	.0205	15.4	25.7	26.3	41.1	.0048	38.7	33.4	33.7	72.2	.0039	40.8
8	10.2	10.7	76.3	.0203	15.8	26.2	26.8	39.6	.0045	39.4	32.3	32.7	40.2	.0033	42.5
9	11.0	11.6	70.4	.0182	18.0	26.8	27.2	57.6	.0064	35.3	34.5	34.8	48.6	.0033	42.3
10	11.6	12.2	69.6	.0173	18.8	26.9	27.4	47.8	.0052	37.8	35.7	35.9	62.3	.0039	40.8
11	13.0	13.6	67.4	.0157	20.8	26.7	27.4	26.0	.0029	43.4	35.3	35.5	63.5	.0041	40.4
Noon.	14.6	15.2	64.8	.0141	22.6	26.5	27.1	38.6	.0043	40.0	36.5	36.7	59.2	.0035	41.7
1h	16.0	16.7	56.6	.0114	26.5	26.3	26.8	49.6	.0056	37.0	33.8	34.3	48.9	.0032	42.3
2	17.7	18.4	53.8	.0098	29.0	26.3	26.8	49.6	.0056	37.0	32.7	33.1	38.6	.0029	42.9
3	17.5	17.9	73.2	.0137	23.2	26.8	27.5	25.5	.0029	43.5	31.6	31.9	58.3	.0048	38.5
4	19.5	19.9	71.1	.0118	25.7	27.5	28.2	22.0	.0024	44.5	33.6	33.8	68.4	.0049	38.3
5	20.5	21.0	62.0	.0098	29.0	27.8	28.5	20.5	.0023	45.1	31.7	31.9	72.2	.0059	36.1
6	19.6	20.4	41.8	.0069	34.1	27.8	28.6	31.7	.0033	42.3	31.9	32.2	57.4	.0046	39.1
7	20.9	21.6	45.0	.0071	34.2	28.3	28.8	42.8	.0044	39.6	31.5	31.9	43.4	.0037	41.2
8	19.8	20.4	55.2	.0091	30.3	28.4	28.8	53.6	.0055	37.1	32.0	32.5	27.5	.0024	45.0
9	20.6	21.3	46.4	.0073	33.6	27.8	28.4	33.0	.0034	42.0	31.6	32.0	43.0	.0036	41.4
10	22.9	23.4	57.2	.0080	32.3	27.6	28.0	56.0	.0059	36.2	32.8	33.4	44.4	.0038	41.0
11	—22.3	—22.9	50.2	0.0070	—33.9	—27.3	—27.8	46.6	0.0050	—38.4	—30.9	—31.3	45.8	0.0041	—40.6
Means.			62.39	0.0141	—22.74			43.98	0.0053	—37.98			51.54	0.0043	—39.85

Day.	FEBRUARY, 1872.														
	22.					23.					24.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	—34.6	—35.0	30.0	0.0020	—45.7	—38.0	—38.3	50.6	0.0025	—46.9	—31.6	—34.9	58.3	0.0018	—38.5
1	32.7	33.0	55.0	.0042	40.0	36.9	37.3	50.6	.0025	47.2	32.5	32.7	70.6	.0055	37.1
2	33.9	34.4	46.2	.0031	42.8	38.6	38.9	50.6	.0025	47.6	33.4	33.7	52.2	.0039	40.8
3	35.8	36.5	46.2	.0031	42.8	39.5	39.7	47.2	.0021	45.0	31.5	31.8	48.6	.0033	42.3
4	36.4	36.8	46.2	.0031	42.8	41.5	41.7	37.5	.0013	47.7	34.5	31.8	48.6	.0033	42.3
5	37.0	37.3	37.5	.0021	45.6	42.4	42.6	42.9	.0018	46.2	33.5	33.9	35.4	.0025	43.2
6	38.0	38.4	47.4	.0027	44.0	39.2	39.4	48.4	.0023	44.7	34.7	35.0	48.0	.0032	42.5
7	37.5	37.9	47.4	.0027	44.0	41.1	41.2	69.4	.0025	44.2	34.7	35.1	29.4	.0020	45.9
8	38.2	38.6	47.4	.0027	44.0	39.3	39.6	51.4	.0025	44.5	34.5	34.9	30.5	.0021	45.6
9	37.7	38.2	47.4	.0027	44.0	38.7	39.1	51.4	.0024	44.4	34.5	31.8	48.6	.0033	42.3
10	37.0	37.2	57.4	.0033	42.4	33.9	34.3	33.5	.0024	44.9	34.5	31.8	48.6	.0033	42.3
11	37.5	37.8	35.0	.0018	46.1	33.5	34.0	20.0	.0016	47.0	31.9	35.4	40.5	.0028	43.8
Noon.	37.6	38.0	45.4	.0024	44.5	33.3	33.6	54.6	.0039	40.7	34.1	34.5	32.5	.0023	45.2
1h	37.3	37.7	45.4	.0024	44.5	32.5	32.9	39.4	.0032	42.8	31.1	34.5	32.5	.0023	45.2
2	37.5	37.7	55.9	.0031	42.9	30.7	31.2	33.2	.0030	43.2	33.7	31.2	28.2	.0022	45.4
3	38.2	38.7	55.0	.0030	45.2	30.3	30.8	34.8	.0032	42.6	34.0	34.6	28.2	.0021	45.6
4	38.4	38.8	55.0	.0030	45.2	32.5	32.7	70.6	.0055	37.1	32.7	33.2	24.0	.0020	45.8
5	38.7	39.1	55.0	.0030	45.2	31.7	32.1	42.6	.0036	41.6	33.6	31.2	36.0	.0033	42.4
6	39.1	39.5	55.0	.0030	45.2	32.5	32.8	55.6	.0043	39.8	31.7	32.3	36.0	.0033	42.4
7	37.9	38.3	55.0	.0030	45.2	31.9	32.3	41.8	.0035	41.9	29.8	30.2	49.4	.0046	39.1
8	38.5	38.8	55.0	.0030	47.5	31.6	32.0	43.0	.0036	41.4	29.9	30.3	49.1	.0046	39.2
9	38.6	39.0	55.0	.0030	45.4	30.4	30.8	47.6	.0043	39.7	29.4	29.7	63.6	.0061	36.0
10	38.0	38.2	54.0	.0028	43.4	29.8	30.2	49.4	.0046	39.1	27.8	28.2	55.4	.0058	36.5
11	—38.8	—39.2	50.6	0.0025	—45.1	—29.5	—29.8	63.4	0.0060	—36.1	—26.5	—26.9	58.2	0.0066	—34.8
Means.			49.14	0.0028	—44.31			46.98	0.0031	—43.18			43.85	0.0036	—41.92

Day.	FEBRUARY, 1872.														
	25.					26.					27.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	—25.2	—25.7	52.6	0.0064	—35.5	— 6.8	— 7.2	83.3	0.0263	—10.5	—19.9	—20.6	47.8	0.0078	—30.4
1	22.8	23.3	57.4	.0080	32.2	6.3	6.6	88.0	.0284	8.9	20.4	21.0	54.0	.0086	31.2
2	22.1	22.7	50.6	.0072	33.6	7.2	7.5	87.5	.0271	9.9	19.6	20.4	41.8	.0069	34.1
3	21.2	21.7	60.6	.0092	29.7	7.4	7.6	91.6	.0276	9.3	20.6	21.2	53.6	.0085	31.6
4	19.5	19.9	71.1	.0118	25.7	8.4	8.6	91.2	.0265	10.4	36.0	26.5	50.5	.0059	36.5
5	18.8	19.4	57.8	.0100	28.9	10.0	10.3	86.0	.0231	13.1	30.7	31.2	33.2	.0030	43.2
6	17.8	18.3	66.7	.0122	25.3	11.3	11.5	90.0	.0227	13.5	32.8	33.3	22.5	.0018	46.3
7	16.7	17.2	68.6	.0132	23.9	13.0	13.4	78.6	.0182	17.7	30.6	31.1	33.6	.0031	43.0
8	15.6	16.2	63.6	.0130	24.1	14.7	15.1	76.9	.0165	19.7	29.7	30.2	37.2	.0035	41.8
9	15.0	15.6	64.4	.0137	23.1	14.6	15.1	71.8	.0153	21.0	31.4	31.7	58.9	.0050	38.3
10	14.6	15.2	64.8	.0141	22.6	15.1	15.4	83.2	.0173	18.8	22.9	23.2	73.8	.0103	28.3
11	15.7	16.2	69.8	.0142	22.5	17.1	17.5	74.0	.0140	22.8	21.5	22.1	51.8	.0078	32.7
Noon.	16.6	17.1	68.8	.0133	23.8	18.5	18.7	86.3	.0151	21.5	21.2	21.6	68.4	.0105	28.1
1h	15.5	16.1	63.8	.0131	24.0	17.5	17.8	80.2	.0149	21.7	17.8	18.6	46.2	.0085	31.3
2	14.5	14.9	77.1	.0167	19.5	18.6	19.2	58.4	.0102	28.5	18.7	19.3	58.1	.0101	28.7
3	13.5	13.9	78.1	.0177	18.3	20.1	20.5	69.5	.0113	26.6	17.8	18.5	53.5	.0097	29.2
4	12.1	12.7	68.6	.0167	19.5	20.7	21.3	53.4	.0084	31.8	19.3	19.7	71.3	.0120	25.5
5	11.1	11.6	75.4	.0193	16.6	22.0	22.6	50.8	.0073	33.4	22.5	22.9	66.2	.0093	29.6
6	11.7	12.2	74.8	.0185	17.4	23.1	23.5	65.0	.0090	30.7	23.7	24.2	55.6	.0074	33.3
7	11.4	11.8	80.0	.0201	15.8	22.6	23.1	57.8	.0081	31.9	24.5	24.9	62.2	.0080	32.2
8	11.1	11.5	80.0	.0204	15.5	22.0	22.6	50.8	.0073	33.4	23.6	24.1	55.8	.0074	33.1
9	10.5	11.0	76.0	.0200	16.0	22.9	23.4	57.2	.0080	32.3	22.7	23.2	57.6	.0081	32.1
10	8.7	9.2	77.8	.0223	13.7	21.8	22.6	34.6	.0052	37.9	22.8	23.2	65.8	.0092	29.9
11	— 7.5	— 8.0	78.0	0.0240	12.2	—21.2	—21.8	52.4	0.0080	—32.3	—22.8	—23.4	48.8	0.0068	—34.6
Means.			68.60	0.0140	—22.48			71.60	0.0157	—22.40			52.84	0.0075	—33.54

Day.	FEBRUARY, 1872.										MARCH, 1872.				
	28.					29.					1.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	—23.2	—23.7	56.6	0.0077	—32.6	—13.9	—14.7	54.6	0.0123	—25.2	—36.2	—36.4	60.4	0.0036	—41.4
1	23.2	23.6	64.8	.0090	30.8	14.7	15.6	47.2	.0102	28.2	36.6	37.0	58.2	.0033	42.1
2	23.5	23.8	73.2	.0099	28.9	15.4	15.9	70.2	.0145	22.1	37.6	38.0	58.2	.0033	42.1
3	23.4	23.8	64.4	.0088	31.0	15.6	16.2	63.6	.0130	24.1	37.5	38.1	58.2	.0033	42.1
4	22.3	22.8	58.4	.0083	31.5	16.2	16.8	62.4	.0124	25.0	37.9	38.4	58.2	.0033	42.1
5	20.9	21.4	61.2	.0095	29.4	16.4	16.9	69.1	.0135	23.5	38.0	38.5	58.2	.0033	42.1
6	19.4	20.0	56.0	.0095	29.5	16.7	17.2	68.6	.0132	23.9	38.4	38.7	58.2	.0033	42.1
7	18.9	19.5	57.5	.0099	29.0	17.0	17.5	68.0	.0129	24.2	38.0	38.5	58.2	.0033	42.1
8	18.0	18.6	59.8	.0107	27.5	17.4	17.7	80.3	.0150	21.6	38.5	39.0	58.2	.0033	42.1
9	19.2	19.7	63.9	.0108	27.3	18.4	18.8	72.2	.0128	24.4	38.6	39.0	58.2	.0033	42.1
10	19.7	20.4	69.6	.0114	26.5	19.2	19.5	78.5	.0133	23.7	38.5	38.9	58.2	.0033	42.1
11	18.8	19.6	43.8	.0076	32.9	19.5	20.0	63.0	.0106	27.7	37.7	38.4	58.2	.0033	42.1
Noon.	17.5	18.2	55.4	.0100	28.7	21.9	22.3	67.4	.0099	29.0	37.8	38.4	58.2	.0033	42.1
1^h	16.8	17.6	48.8	.0095	29.5	23.5	23.9	64.2	.0087	31.1	37.7	38.2	58.2	.0033	42.1
2	16.5	17.1	61.9	.0121	25.5	25.4	25.7	70.6	.0086	31.3	37.5	38.0	58.2	.0033	42.1
3	16.5	17.1	61.9	.0121	25.5	26.6	27.1	48.7	.0054	37.3	37.4	37.8	58.2	.0033	42.1
4	17.6	18.1	66.9	.0124	25.1	28.0	28.4	54.8	.0057	36.7	37.5	37.7	55.9	.0031	42.9
5	17.3	17.8	67.4	.0126	24.7	29.3	29.7	50.9	.0050	38.3	37.5	37.8	35.0	.0018	46.1
6	15.7	16.5	51.0	.0102	27.8	30.3	30.8	34.8	.0032	42.6	36.9	37.5	37.0	.0020	45.5
7	15.5	16.2	57.6	.0119	25.7	31.4	31.8	43.8	.0038	41.1	36.7	37.0	39.0	.0022	45.0
8	15.1	15.7	64.3	.0136	23.3	32.4	32.7	55.9	.0044	39.7	36.5	36.9	38.0	.0021	45.3
9	14.8	15.3	71.4	.0151	21.3	33.3	33.6	52.6	.0039	40.7	36.7	37.2	38.0	.0021	45.3
10	14.3	14.9	65.2	.0144	22.3	34.7	35.1	29.4	.0020	45.9	37.0	37.6	38.0	.0021	45.3
11	—12.8	—13.6	56.8	0.0131	—23.5	—36.2	—36.4	60.4	0.0036	—41.4	—36.4	—36.9	38.0	0.0021	—45.3
Means.			60.74	0.0109	—29.58			59.22	0.0091	—31.20			52.18	0.0029	—43.07

Day.	MARCH, 1872.														
	2.					3.					4.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	—36.4	—36.8	38.0	0.0021	—45.3	—41.9	—42.4	42.5	0.0025	—45.8	—38.7	—39.1	35.7	0.0019	—46.7
1	37.1	37.4	37.0	.0020	45.7	38.7	39.2	42.5	.0025	45.8	38.1	38.6	35.7	.0019	46.7
2	38.2	38.6	40.5	.0019	45.9	37.9	38.6	42.5	.0025	45.8	37.3	37.6	36.0	.0019	45.9
3	38.1	38.6	40.5	.0019	45.9	38.5	38.9	42.5	.0025	45.8	38.2	38.4	53.0	.0027	43.6
4	38.3	38.7	40.5	.0019	45.9	38.4	38.7	42.5	.0025	47.4	38.7	39.2	36.5	.0021	45.2
5	37.4	38.0	40.5	.0019	45.9	38.8	39.0	50.0	.0025	44.0	39.2	39.5	36.5	.0021	45.2
6	38.6	39.1	40.5	.0019	45.9	39.1	39.4	48.4	.0035	44.6	38.0	38.3	36.5	.0021	46.9
7	39.6	39.9	40.5	.0019	45.9	37.3	37.7	48.4	.0035	44.6	33.5	34.0	20.0	.0016	47.0
8	39.7	40.1	40.5	.0019	45.9	39.3	39.3	48.4	.0045	44.6	30.8	31.3	32.8	.0030	43.3
9	40.2	40.4	44.0	.0018	46.2	39.6	39.8	46.8	.0021	45.2	31.2	31.5	59.5	.0051	38.1
10	39.2	39.6	45.2	.0019	46.8	45.4	45.4	41.2	.0020	45.6	31.5	31.8	58.6	.0049	38.4
11	38.5	38.8	45.2	.0019	47.5	38.5	38.9	41.1	.0020	45.6	30.5	31.0	34.0	.0031	42.8
Noon.	38.5	38.9	45.2	.0019	46.4	37.4	37.7	35.5	.0019	46.0	30.4	30.8	47.6	.0043	39.7
1^h	37.7	38.2	45.2	.0019	46.4	36.5	37.1	35.7	.0019	46.8	30.1	30.7	21.2	.0020	45.6
2	38.5	38.9	45.2	.0019	46.4	36.5	37.0	35.7	.0019	46.8	30.1	30.6	35.6	.0033	42.4
3	39.7	40.0	45.2	.0019	46.4	36.7	37.3	35.7	.0019	46.8	26.5	27.3	27.3	.0029	43.6
4	39.7	39.9	46.4	.0020	45.4	36.5	37.0	35.7	.0019	46.8	25.7	26.5	19.0	.0025	44.8
5	38.7	39.1	45.8	.0022	46.4	37.1	37.5	35.7	.0019	46.8	24.5	25.1	44.7	.0056	36.8
6	38.7	39.0	44.1	.0022	47.4	36.6	37.1	35.7	.0019	46.8	23.3	23.8	56.4	.0076	32.7
7	38.5	38.8	42.4	.0022	47.5	36.6	37.0	35.7	.0019	46.8	21.9	22.5	51.0	.0074	33.3
8	37.8	38.2	40.7	.0022	45.9	36.2	36.6	35.7	.0019	46.8	21.5	22.2	44.2	.0066	35.0
9	33.6	34.0	35.0	.0025	44.3	37.3	37.7	35.7	.0019	46.8	21.4	22.1	44.6	.0067	34.8
10	41.1	41.6	42.5	.0025	45.8	37.9	38.3	35.7	.0019	46.8	20.5	21.2	46.6	.0074	33.4
11	—38.7	—39.2	42.5	0.0025	—45.8	—38.6	—38.9	35.7	0.0019	—47.6	—20.0	—20.7	47.6	0.0077	—30.3
Means.			42.21	0.0020	—46.12			40.21	0.0023	—46.10			40.02	0.0040	—40.9[illegible]

MARCH, 1872.

Day.	5.					6.					7.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	—20.7	—21.2	61.6	0.0097	—29.2	—17.3	—17.9	61.1	0.0114	—26.5	—32.8	—33.3	23.5	0.0019	—45.9
1	20.5	21.0	62.0	.0098	29.0	17.6	18.0	73.0	.0136	23.3	33.3	33.8	21.0	.0017	46.7
2	20.5	21.0	62.0	.0098	29.0	17.6	18.2	61.6	.0111	26.9	33.8	34.3	23.0	.0019	46.1
3	19.2	20.7	62.3	.0100	28.6	17.4	18.0	61.0	.0113	26.6	32.5	33.0	25.0	.0021	45.5
4	18.2	18.8	59.4	.0105	27.8	17.4	18.0	61.0	.0113	26.6	30.3	30.9	20.4	.0019	45.9
5	17.1	17.7	61.3	.0116	26.3	17.9	18.5	60.0	.0108	27.3	33.9	34.2	50.4	.0036	41.6
6	17.1	17.6	67.8	.0128	24.4	18.0	18.6	59.8	.0107	27.5	36.7	37.1	45.4	.0025	44.5
7	16.7	17.2	68.6	.0132	23.9	18.1	18.6	66.4	.0119	25.8	37.6	38.0	45.4	.0025	44.5
8	16.5	17.0	69.0	.0134	23.6	20.5	21.0	62.0	.0098	29.0	38.3	38.7	45.4	.0025	44.5
9	16.6	17.0	75.0	.0145	22.1	21.5	21.7	84.3	.0125	24.7	37.8	38.3	45.4	.0025	44.5
10	16.2	17.0	50.0	.0100	28.6	21.8	22.2	67.6	.0100	28.9	38.2	38.6	45.4	.0025	44.5
11	16.1	16.7	62.6	.0125	24.9	21.8	22.1	75.8	.0112	27.0	38.3	38.7	45.4	.0025	44.5
Noon.	16.4	16.9	69.1	.0134	23.6	24.8	25.6	23.4	.0031	43.1	39.0	39.6	45.4	.0025	44.5
1h	16.0	16.7	56.6	.0114	26.5	28.3	28.5	77.5	.0080	32.5	37.7	38.1	45.4	.0025	44.5
2	15.5	16.2	57.6	.0119	25.7	30.5	30.9	47.3	.0043	39.7	38.5	38.8	45.4	.0025	47.5
3	16.0	16.6	62.8	.0126	24.7	31.7	32.1	42.6	.0036	41.6	38.7	39.3	45.4	.0025	47.2
4	15.9	16.7	50.6	.0103	28.1	31.5	31.8	58.6	.0049	38.4	38.9	39.5	45.4	.0025	47.2
5	15.9	16.7	50.6	.0103	28.1	31.5	31.9	43.4	.0037	41.2	39.4	39.7	45.4	.0025	47.2
6	15.6	16.4	51.2	.0106	27.6	31.5	32.1	35.7	.0030	43.1	40.5	40.8	45.4	.0025	47.2
7	15.8	16.4	63.2	.0128	24.4	31.6	32.2	35.7	.0030	43.1	40.5	41.0	45.4	.0025	47.2
8	15.6	16.3	57.4	.0118	25.9	31.7	32.3	35.7	.0030	43.1	40.5	41.0	45.4	.0025	47.2
9	16.3	17.1	49.8	.0100	28.8	31.9	32.4	28.0	.0024	44.9	40.7	41.1	45.4	.0025	47.2
10	17.1	17.8	55.3	.0105	28.0	32.3	32.8	26.0	.0022	45.3	40.9	41.1	40.5	.0015	47.0
11	—17.4	—18.1	54.7	0.0101	—28.6	—32.2	—32.8	24.7	0.0020	—45.6	—41.1	—41.3	39.5	0.0014	—47.3
Means.			59.81	0.0114	—26.56			53.01	0.0075	—34.24			40.40	0.0023	—45.83

MARCH, 1872.

Day.	8.					9.					10.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	—41.2	—41.4	39.0	0.0014	—47.4	—44.5	—44.7	47.4	0.0001	—44.9	—32.2	—32.7	26.5	0.0023	—45.2
1	40.6	41.0	43.1	.0017	46.2	42.4	42.7	47.4	.0001	44.9	32.4	33.3	25.7	.0022	45.3
2	40.3	40.6	43.1	.0017	46.2	43.5	44.0	47.4	.0001	44.9	32.2	32.8	25.7	.0022	45.3
3	40.7	41.1	43.1	.0017	46.2	44.8	45.0	47.4	.0000	44.9	32.9	33.5	25.7	.0022	45.3
4	39.8	40.5	43.1	.0017	46.2	45.5	45.9	47.4	.0002	44.9	32.5	33.0	25.0	.0021	45.5
5	40.4	41.0	43.1	.0017	46.2	45.6	46.0	47.4	.0002	44.9	31.9	32.7	32.6	.0027	44.0
6	41.1	41.5	43.1	.0017	46.2	46.1	46.5	47.4	.0002	44.9	32.3	32.7	40.2	.0033	42.5
7	40.6	41.1	43.1	.0017	46.2	44.4	44.8	47.4	.0002	44.9	32.7	33.1	38.6	.0029	42.9
8	40.0	40.4	43.1	.0017	46.2	43.6	43.9	47.4	.0002	44.9	30.7	31.1	46.6	.0042	40.2
9	39.4	39.8	43.1	.0017	46.2	44.3	44.6	47.4	.0002	44.9	31.7	31.9	72.2	.0059	36.1
10	39.5	39.7	47.2	.0021	45.0	43.5	44.0	47.4	.0002	44.9	30.3	30.6	61.8	.0055	37.0
11	39.4	39.6	47.6	.0022	44.9	43.3	43.7	47.4	.0002	44.9	30.5	30.8	61.4	.0054	37.2
Noon.	40.3	40.3	47.4	.0041	44.9	43.7	43.9	47.4	.0004	44.9	33.3	33.7	36.2	.0026	43.1
1h	43.0	43.5	47.4	.0024	44.9	42.5	42.7	47.4	.0012	44.9	32.3	32.7	40.2	.0033	42.5
2	41.8	42.4	47.4	.0024	44.9	43.4	43.7	47.4	.0012	44.9	34.6	35.0	30.0	.0020	45.7
3	43.8	41.5	47.4	.0024	44.9	43.7	44.3	47.4	.0012	44.9	35.5	36.0	30.2	.0020	45.6
4	44.5	45.0	47.4	.0024	44.9	42.4	43.0	47.4	.0012	44.9	35.8	36.4	30.2	.0020	45.6
5	44.2	44.7	47.4	.0024	44.9	41.0	41.7	47.4	.0012	44.9	35.2	35.7	30.2	.0020	45.6
6	43.3	43.9	47.4	.0024	44.9	41.0	41.7	47.4	.0012	44.9	34.8	35.3	30.2	.0020	45.6
7	41.0	41.6	47.4	.0024	44.9	39.5	39.7	47.2	.0021	45.0	34.5	34.9	30.5	.0021	45.6
8	41.2	41.7	47.4	.0024	44.9	39.2	39.7	31.8	.0022	45.1	34.2	34.7	47.9	.0032	42.5
9	42.0	42.3	47.4	.0024	44.9	38.4	38.9	31.8	.0022	45.1	34.0	34.5	47.9	.0032	42.5
10	42.3	42.6	47.4	.0024	44.9	38.1	38.6	31.8	.0022	45.1	33.9	34.5	47.9	.0032	42.5
11	—43.1	—43.3	47.4	0.0007	—44.9	—34.4	—34.9	31.8	0.0022	—45.1	—33.7	—34.3	47.9	0.0032	—42.5
Means.			45.44	0.0021	—45.50			44.79	0.0009	—44.94			38.55	0.0029	—43.16

MARCH, 1872.

Day.	11.					12.					13.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	—33.9	—34.5	47.9	0.0032	—42.5	—31.5	—31.9	43 4	0.0037	—41.2	—30.5	—30.9	47.3	0.0043	—39.8
1	33.2	33.8	47.9	.0032	42.5	31.7	32.1	42.6	.0036	41.6	30.6	31.0	47.0	.0042	40.0
2	33.3	33.9	47.9	.0032	42.5	30.3	30.9	20.4	.0019	45.9	30.9	31.3	45.8	.0041	40.6
3	33.7	34.4	47.9	.0032	42.5	30.8	31.3	32.8	.0030	43.3	30.4	31.0	38.9	.0035	42.1
4	34.5	35.1	47.9	.0032	42.5	30.0	30.6	21.6	.0021	45.5	31.0	31.5	32.0	.0029	43.5
5	34.5	35.0	47.9	.0032	42.5	30.3	31.0	21.4	.0020	45.5	32.2	32.6	40.6	.0033	42.3
6	36.4	36.8	47.9	.0032	42.5	30.1	30.7	21.2	.0020	45.6	30.8	31.4	35.5	.0030	43.1
7	36.8	37.6	47.9	.0032	42.5	30.5	31.4	21.4	.0020	45.5	31.4	31.9	30.4	.0027	43.9
8	34.8	35.4	47.9	.0032	42.5	30.0	30.6	21.6	.0021	45.5	32.1	32.5	41.0	.0034	42.2
9	34.7	34.9	65.3	.0044	39.5	29.6	30.5	27.2	.0025	44.4	31.0	31.3	60.1	.0052	37.9
10	36.6	36.9	39.5	.0022	44.8	30.5	31.2	27.2	.0025	44.4	23.5	24.0	56.0	.0075	33.0
11	31.8	32.7	42.1	.0025	44.1	33.7	34.3	27.2	.0025	44.4	21.8	22.2	67.6	.0100	28.9
Noon.	37.1	37.5	42.1	.0025	44.1	30.6	31.2	27.2	.0025	44.4	22.7	23.1	65.8	.0092	29.0
1h	35.5	35.8	44.8	.0028	43.5	30.8	31.3	32.8	.0030	43.3	22.5	22.7	83.3	.0117	25.9
2	34.6	35.0	30.0	.0020	45.7	27.1	27.7	36.2	.0039	40.9	22.0	22.6	50.8	.0073	33.4
3	35.2	35.7	30.7	.0021	45.5	27.5	28.2	22.0	.0024	44.5	24.9	25.5	43.5	.0054	37.4
4	34.0	34.7	30.7	.0021	45.5	29.1	29.7	25.8	.0027	44.1	24.3	24.8	54.4	.0069	34.2
5	34.3	34.7	31.5	.0022	45.4	27.0	27.7	24.5	.0028	43.8	27.1	27.7	36.2	.0039	40.9
6	30.5	31.2	36.8	.0028	43.5	31.3	31.8	30.8	.0027	43.9	26.9	27.6	25.0	.0028	43.7
7	36.3	36.7	36.8	.0028	43.5	33.7	34.1	34.5	.0025	44.5	23.8	24.5	37.0	.0050	38.4
8	31.8	32.2	42.2	.0035	41.7	31.7	32.1	42.6	.0936	41.6	28.0	28.4	54.8	.0057	36.7
9	31.7	32.1	42.6	.0036	41.6	32.2	33.6	43.0	.0036	41.4	26.3	26.9	39.3	.0044	39.6
10	31.6	32.0	43.0	.0036	41.4	31.5	31.9	43.4	.0037	41.2	24.9	25.5	43.5	.0054	37.2
11	—31.4	—31.8	43.8	0.0038	—41.1	—31.3	—31.7	44.2	0.0039	—41.0	—25.4	—26.1	30.7	0.0038	—41.0
Means.			43.04	0.0029	—43.05			30.62	0.0028	—43.64			46.10	0.0052	—38.1.

MARCH, 1872.

Day.	14.					15.					16.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	—27.6	—28.0	56.0	0.0059	—36.2	—31.4	—31.8	43.8	0.0038	—41.1	—33.0	—33.2	69.6	0.0052	—37.7
1	27.2	27.8	35.8	.0038	41.0	30.7	31.1	46.6	.0042	40.2	27.4	27.8	56.4	.0061	35.9
2	26.9	27.3	57.4	.0064	35.4	30.2	30.5	62.0	.0056	36.9	19.5	20.1	55.8	.0094	29.7
3	27.9	28.3	55.1	.0058	36.6	34.4	34.7	48.9	.0031	42.2	20.9	21.4	61.2	.0095	29.4
4	29.5	29.8	63.4	.0060	36.1	31.3	31.8	30.8	.0027	43.8	23.0	23.6	48.2	.0067	54.9
5	31.6	31.9	58.3	.0048	38.5	36.3	36.6	42.6	.0048	39.0	21.5	22.0	60.0	.0090	30.3
6	31.5	31.8	58.6	.0049	38.4	34 3	34.8	54.4	.0069	34.2	20.1	20.7	54.6	.0088	30.9
7	30.7	31.0	61.0	.0053	37.5	32.3	32.8	26.0	.0022	45.3	16.7	17.6	42.8	.0082	31.5
8	31.5	31.8	58.6	.0049	38.4	25.5	25.8	70.4	.0085	31.4	20.7	21.0	77.0	.0120	25.6
9	32.6	32.8	70.4	.0054	37.2	23.7	24.0	73.0	.0097	29.2	19.6	19.9	87.1	.0129	24.1
10	31.1	31.8	59.6	.0049	38.2	24.6	24.8	81.2	.0103	28.2	20.1	20.4	77.6	.0125	24.9
11	30.0	30.4	48.8	.0045	39.3	23.3	23.6	73.4	.0101	28.7	22.0	22.3	75.4	.0110	27.2
Noon.	33.1	33.4	53.4	.0040	40.5	24.0	24.6	45.8	.0060	36.2	22.5	22.5	100.0	.0142	22.6
1h	29.8	30.1	62.8	.0058	36.5	25.9	26.3	59.4	.0071	34.2	24.3	24.5	81.5	.0105	27.9
2	29.5	29.7	75.6	.0073	33.7	23.7	24.5	28.0	.0039	41.0	22.5	23.1	49.7	.0069	34.1
3	32.3	32.6	56.2	.0044	39.6	22.6	23.2	49.4	.0069	31.3	20.9	21.7	37.9	.0058	36.5
4	31.0	31.5	32.0	.0029	43.5	28.0	28.4	54.8	.0057	36.7	19.9	20.7	40.9	.0066	34.6
5	31.5	31.8	58.6	.0049	38.4	28.7	29.1	52.7	.0053	37.6	19.9	20.7	40.9	.0066	34.6
6	34.7	35.1	29.4	.0020	45.9	28.5	29.0	42.0	.0042	40.2	22.5	23.2	40.4	.0058	36.5
7	35.0	35.3	46.8	.0031	43.0	30.8	31.1	60.7	.0053	37.7	24.5	24.9	62.2	.0080	32.2
8	35.0	35.4	27.6	.0018	46.3	33.4	33.6	68.8	.0050	38.1	32.1	32.4	56.8	.0045	39.4
9	33.9	34.3	33.5	.0024	44.9	33.5	33.7	68.6	.0050	38.2	31.4	31.8	43.8	.0037	41.2
10	33.1	33.5	37.0	.0027	43.1	34.8	34.9	82.2	.0055	37.1	33.2	33.5	53.0	.0040	40.6
11	—31.6	—32.0	43.0	0.0036	—41.4	—34.9	—35.1	64.7	0.0043	—39.9	—35.9	—36.1	61.1	0.0038	—41.1
Means.			50.58	0.0045	—39.57			55.63	0.0057	—37.14			59.71	0.0079	—33.48

MARCH, 1872.

Day.	17.					18.					19.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	—31.6	—32.0	43.0	0.0036	—41.4	—15.1	—15.7	64.3	0.0135	—23.3	—28.4	—28.8	53.6	0.0055	—37.1
1	31.7	32.1	42.6	.0036	41.6	15.1	15.7	64.3	.0135	23.3	27.2	27.6	56.8	.0062	35.7
2	31.9	32.3	41.8	.0035	41.9	15.1	15.7	64.3	.0135	23.3	26.1	26.5	59.0	.0070	34.4
3	31.7	32.3	32.7	.0029	43.3	17.4	18.0	61.0	.0113	26.6	25.4	25.9	52.2	.0062	35.7
4	29.5	30.1	23.6	.0024	44.7	19.0	19.6	57.2	.0098	29.1	25.3	25.9	60.8	.0076	33.1
5	29.9	30.3	49.1	.0046	39.2	21.4	22.1	44.6	.0067	34.8	25.8	26.3	51.1	.0060	36.2
6	27.8	28.3	44.8	.0047	39.1	22.6	23.3	40.1	.0058	36.7	26.9	27.3	57.4	.0064	35.4
7	24.2	24.9	36.2	.0046	39.0	24.0	24.5	55.0	.0072	33.7	26.3	26.9	39.3	.0044	39.6
8	25.2	25.7	52.6	.0064	35.5	23.3	23.8	56.4	.0076	32.7	24.5	24.8	72.2	.0092	30.1
9	19.6	20.0	71.0	.0118	25.9	19.0	19.2	85.8	.0147	22.0	19.7	19.9	85.1	.0140	22.7
10	18.9	19.2	78.8	.0136	23.4	20.8	21.1	76.9	.0119	25.8	17.8	18.0	87.0	.0158	20.6
11	15.5	16.1	63.8	.0131	24.0	23.7	24.1	63.8	.0086	31.4	19.3	19.3	100.0	.0169	19.5
Noon.	14.3	14.8	72.2	.0157	20.7	22.7	22.8	92.0	.0128	24.3	13.6	14.0	78.0	.0176	18.5
1h	14.1	14.6	72.4	.0159	20.5	21.6	21.8	84.2	.0124	24.8	15.3	15.7	76.3	.0159	20.3
2	13.5	14.1	66.8	.0152	21.3	25.1	25.3	80.7	.0100	28.9	17.0	17.5	68.0	.0129	24.3
3	14.5	14.9	77.1	.0167	19.5	24.5	24.8	72.2	.0092	30.1	17.3	17.8	67.4	.0126	24.7
4	9.0	9.7	67.3	.0195	16.8	28.7	29.0	65.0	.0064	35.2	18.5	19.0	66.0	.0115	26.3
5	10.4	10.8	80.2	.0213	14.7	24.5	25.1	44.7	.0056	36.8	13.7	14.5	55.0	.0125	21.9
6	12.7	13.4	62.6	.0148	21.7	30.2	30.7	35.2	.0033	42.5	14.1	14.6	72.4	.0159	20.5
7	15.1	15.7	64.3	.0135	23.3	26.3	26.7	58.6	.0068	34.6	14.4	15.0	65.0	.0143	22.4
8	15.1	15.7	64.3	.0135	23.3	31.4	31.8	43.8	.0038	41.1	12.5	13.2	62.8	.0150	21.4
9	15.1	15.7	64.3	.0135	23.3	31.4	31.8	43.8	.0038	41.1	11.6	12.3	64.4	.0161	20.2
10	15.1	15.7	64.3	.0135	23.3	29.4	29.8	50.6	.0049	38.4	9.6	10.1	76.9	.0212	14.9
11	—15.1	—15.7	64.3	0.0135	—23.3	—27.2	—27.6	56.8	.0062	—35.7	— 9.1	— 9.6	77.4	0.0218	—14.1
Means.			63.34	0.0109	—28.78			60.89	0.0087	—31.51			66.84	0.0122	—26.31

MARCH, 1872.

Day.	20.					21.					22.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	— 8.1	— 8.6	78.0	0.0231	—12.8	—21.6	—22.1	59.8	0.0090	—30.4	—30.4	—30.7	61.6	0.0055	—37.1
1	7.6	8.0	82.8	.0251	11.4	21.9	22.4	59.2	.0087	30.9	30.9	31.2	60.4	.0052	37.8
2	6.5	6.9	83.6	.0268	10.1	22.4	22.8	66.4	.0094	29.5	31.7	32.1	42.6	.0036	41.6
3	9.7	10.1	80.9	.0221	13.8	23.2	23.7	56.6	.0077	32.6	30.9	31.4	32.4	.0029	43.4
4	11.4	11.9	75.1	.0189	17.0	24.4	24.9	54.2	.0068	34.3	30.4	30.8	47.6	.0043	39.7
5	12.9	13.5	73.5	.0170	19.2	25.9	26.5	40.5	.0047	39.0	30.5	30.9	34.4	.0032	42.7
6	13.8	14.5	61.0	.0137	23.3	26.6	27.1	48.7	.0054	37.3	29.6	30.0	50.0	.0047	38.7
7	14.2	14.6	77.4	.0170	19.2	26.7	27.1	57.8	.0065	35.2	27.4	27.9	46.3	.0049	38.5
8	14.9	15.4	71.2	.0150	21.4	27.6	28.1	45.6	.0048	38.8	25.8	26.1	69.9	.0083	31.8
9	15.6	16.3	57.4	.0118	25.9	28.1	28.6	43.6	.0045	39.4	25.7	25.9	80.1	.0095	29.5
10	15.8	16.2	75.8	.0153	21.2	28.6	29.0	53.6	.0053	37.4	24.7	25.0	72.0	.0090	30.4
11	17.6	18.0	73.0	.0136	23.3	27.6	28.2	34.0	.0035	41.7	23.8	24.6	27.8	.0038	41.2
Noon.	16.8	17.2	74.6	.0143	22.3	26.5	26.7	79.3	.0091	30.4	24.0	24.2	81.8	.0107	27.6
1h	16.0	16.6	62.8	.0126	24.7	26.5	26.9	58.2	.0066	34.8	24.0	24.1	91.0	.0120	25.7
2	16.5	17.1	61.9	.0121	25.5	27.3	27.7	56.6	.0062	35.8	24.5	24.7	81.3	.0104	28.1
3	16.7	17.4	55.6	.0108	27.5	27.5	27.8	67.4	.0072	33.7	25.1	25.5	61.0	.0077	33.0
4	17.4	18.0	61.0	.0113	26.6	27.7	28.0	67.0	.0070	34.0	25.3	25.6	70.8	.0087	31.2
5	18.1	18.7	59.6	.0106	27.7	27.4	27.8	56.4	.0061	35.9	24.1	24.7	45.6	.0059	36.3
6	18.7	19.5	44.0	.0077	32.8	28.7	29.1	52.7	.0053	37.6	23.6	24.2	46.6	.0062	35.8
7	19.5	20.0	63.0	.0106	27.7	27.7	28.1	55.7	.0059	36.4	23.4	24.1	37.8	.0052	37.8
8	19.7	20.4	48.2	.0080	30.6	29.2	29.5	64.0	.0062	35.8	21.9	22.5	51.0	.0074	33.3
9	19.4	20.1	48.8	.0083	31.2	29.4	29.7	63.6	.0061	36.0	21.9	22.5	51.0	.0074	33.3
10	20.5	21.3	42.1	.0070	34.0	29.4	29.8	50.6	.0049	38.4	21.9	22.5	51.0	.0074	33.3
11	—21.1	—21.6	60.8	0.0093	—29.6	—29.8	—30.1	62.8	0.0058	—36.5	—21.9	—22.5	51.0	0.0074	—33.3
Means.			60.50	0.0143	—23.28			56.36	0.0064	—35.49			56.04	0.0067	—35.05

MARCH, 1872.

Day.	23.					24.					25.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	......	......	......	......	......	—21. 9	—22. 5	51. 0	0. 0074	—33. 3	—21. 2	—21. 7	60. 6	0. 0092	—29. 7
1	......	......	......	......	......	21. 9	22. 5	51. 0	. 0074	33. 3	20. 9	21. 4	61. 2	. 0095	29. 4
2	......	......	......	......	......	21. 9	22. 5	51. 0	. 0074	33. 3	21. 0	21. 6	52. 8	. 0082	32. 1
3	......	......	......	......	......	21. 4	21. 0	54. 0	. 0086	31. 2	25. 0	25. 5	53. 0	. 0066	35. 2
4	......	......	......	......	......	20. 1	21. 7	52. 6	. 0081	32. 2	23. 4	24. 0	47. 0	. 0063	35. 4
5	......	......	......	......	......	20. 0	20. 8	40. 6	. 0065	34. 7	24. 3	24. 7	62. 6	. 0082	32. 0
6	......	......	......	......	......	19. 7	20. 3	55. 4	. 0092	30. 1	24. 0	24. 5	55. 0	. 0072	33. 7
7	......	......	......	......	......	18. 9	19. 4	64. 8	. 0111	26. 9	21. 7	21. 7	100. 0	. 0148	21. 8
8	......	......	......	......	......	19. 4	19. 9	63. 3	. 0106	27. 6	19. 6	21. 8	84. 2	. 0124	24. 8
9	......	......	......	......	......	19. 9	20. 2	77. 8	. 0127	24. 7	20. 7	21. 2	61. 6	. 0097	29. 2
10	......	......	......	......	......	17. 5	17. 8	80. 2	. 0149	21. 7	19. 6	19. 8	85. 2	. 0141	22. 6
11	......	......	......	......	......	16. 8	17. 3	68. 4	. 0131	24. 0	17. 1	17. 4	80. 6	. 0153	21. 3
Noon.	......	......	......	......	......	17. 1	17. 5	74. 0	. 0141	22. 8	15. 7	16. 1	75. 9	. 0154	21. 1
1h	......	......	......	......	......	14. 5	14. 9	77. 1	. 0167	19. 5	16. 1	17. 4	80. 6	. 0153	21. 3
2	......	......	......	......	......	16. 5	17. 1	61. 9	. 0121	25. 5	19. 7	20. 2	62. 8	. 0105	28. 1
3	......	......	......	......	......	16. 4	17. 0	62. 0	. 0122	25. 3	18. 4	18. 8	72. 2	. 0128	24. 4
4	......	......	......	......	......	18. 3	18. 8	66. 2	. 0117	26. 1	18. 0	18. 6	59. 8	. 0107	27. 5
5	......	......	......	......	......	18. 3	18. 8	66. 2	. 0117	26. 1	17. 9	18. 6	53. 2	. 0096	29. 3
6	......	......	......	......	......	19. 3	19. 8	63. 6	. 0107	27. 5	19. 9	20. 3	69. 7	. 0115	26. 4
7	......	......	......	......	......	21. 8	22. 2	67. 6	. 0100	28. 9	20. 4	20. 8	69. 2	. 0110	26. 9
8	......	......	......	......	......	21. 9	22. 3	67. 4	. 0099	29. 0	20. 8	21. 3	61. 4	. 0096	29. 3
9	......	......	......	......	......	21. 7	22. 1	67. 8	. 0101	28. 7	22. 2	22. 7	58. 6	. 0084	31. 3
10	......	......	......	......	......	21. 8	22. 2	67. 6	. 0100	28. 9	23. 2	23. 8	47. 6	. 0065	35. 2
11	......	......	......	......	......	—21. 4	—21. 9	60. 2	0. 0090	—30. 1	—21. 7	—22. 2	59. 6	0. 0089	—30. 6
Means.			......	......	......			62. 99	0. 0106	—27. 97			65. 60	0. 0105	—28. 23

MARCH, 1872.

Day.	26.					27.					28.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	—18. 8	—19. 3	65. 1	0. 0112	—26. 7	— 1. 7	— 2. 3	79. 7	0. 0321	— 6. 5	+ 2. 8	+ 2. 2	83. 2	0. 0410	— 1. 2
1	17. 9	18. 4	65. 6	. 0121	25. 5	1. 1	1. 6	83. 4	. 0346	4. 8	2. 3	1. 7	82. 8	. 0399	1. 7
2	16. 5	17. 0	69. 0	. 0134	23. 6	0. 7	1. 3	80. 7	. 0340	5. 3	2. 1	1. 4	79. 8	. 0382	2. 7
3	13. 8	14. 3	72. 7	. 0162	20. 2	1. 6	2. 1	83. 0	. 0337	5. 4	1. 9	1. 2	79. 7	. 0378	2. 9
4	12. 7	13. 3	67. 7	. 0161	20. 4	1. 5	2. 0	83. 0	. 0338	5. 3	1. 8	1. 1	79. 6	. 0376	3. 1
5	11. 8	12. 4	69. 2	. 0170	19. 1	3. 3	3. 8	82. 2	. 0305	7. 5	2. 2	1. 6	82. 7	. 0397	1. 8
6	10. 5	11. 0	76. 0	. 0200	16. 0	2. 7	3. 2	82. 8	. 0315	6. 7	2. 3	1. 7	82. 8	. 0399	1. 7
7	9. 3	9. 8	77. 2	. 0215	14. 4	3. 0	3. 2	93. 0	. 0349	4. 6	2. 3	1. 7	82. 8	. 0399	1. 7
8	9. 6	10. 1	76. 9	. 0212	14. 9	2. 7	2. 0	90. 0	. 0361	3. 9	2. 5	2. 1	88. 8	. 0431	0. 1
9	9. 5	10. 0	77. 0	. 0213	14. 8	— 0. 2	— 0. 5	90. 6	. 0393	2. 1	2. 8	2. 3	86. 1	. 0424	— 0. 5
10	7. 8	8. 5	69. 0	. 0210	15. 0	+ 1. 0	+ 0. 6	88. 1	. 0399	1. 7	3. 4	2. 9	86. 4	. 0439	+ 0. 3
11	8. 1	8. 7	73. 3	. 0218	14. 2	1. 2	0. 8	88. 2	. 0403	1. 5	3. 5	3. 0	86. 4	. 0441	0. 4
Noon.	7. 3	7. 9	74. 1	. 0230	13. 3	2. 8	2. 2	83. 2	. 0410	— 1. 2	3. 8	3. 6	94. 5	. 0488	2. 6
1h	6. 0	6. 7	71. 3	. 0237	12. 7	3. 3	2. 8	86. 3	. 0436	+ 0. 2	4. 3	3. 9	89. 5	. 0473	1. 9
2	5. 6	6. 3	71. 7	. 0243	12. 3	3. 0	2. 5	86. 2	. 0429	— 0. 3	3. 4	3. 0	89. 0	. 0452	0. 9
3	5. 0	5. 7	72. 3	. 0252	11. 5	3. 3	2. 7	83. 6	. 0422	0. 6	3. 3	2. 8	86. 3	. 0436	+ 0. 2
4	4. 9	5. 6	72. 4	. 0253	11. 4	3. 1	2. 5	83. 4	. 0417	0. 9	2. 2	1. 6	82. 7	. 0397	— 1. 8
5	5. 2	5. 9	72. 1	. 0249	11. 7	3. 2	2. 5	80. 8	. 0407	1. 6	1. 6	+ 1. 0	82. 3	. 0385	2. 5
6	5. 5	6. 1	75. 9	. 0255	11. 1	3. 0	2. 3	80. 6	. 0402	1. 8	+ 0. 3	± 0. 0	90. 8	. 0399	1. 8
7	4. 5	5. 2	72. 8	. 0259	10. 7	3. 2	2. 6	83. 5	. 0419	— 0. 7	— 1. 2	— 1. 7	83. 3	. 0344	4. 9
8	3. 9	4. 6	74. 4	. 0270	10. 0	3. 4	2. 9	86. 4	. 0439	+ 0. 3	2. 6	3. 2	78. 8	. 0304	7. 5
9	3. 3	3. 7	85. 7	. 0318	6. 6	3. 3	2. 8	86. 3	. 0436	0. 2	3. 0	3. 4	85. 9	. 0323	6. 3
10	2. 6	3. 3	74. 7	. 0291	8. 4	3. 5	3. 0	86. 4	. 0441	+ 0. 4	3. 9	4. 3	89. 2	. 0320	6. 4
11	— 2. 1	— 2. 7	78. 3	0. 0296	— 8. 2	+ 3. 1	+ 2. 6	86. 2	0. 0431	— 0. 2	— 5. 1	— 5. 4	88. 6	0. 0302	— 7. 6
Means.			73. 14	0. 0220	— 14. 70			84. 90	0. 0387	— 2. 56			85. 08	0. 0396	— 2. 0[illegible]

Day.	MARCH, 1872.														
	29.					30.					31.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	− 6.3	− 6.5	92.0	0.0292	− 8.0	−10.0	−10.4	80.6	0.0218	−14.1	+ 0.7	+ 0.1	81.7	0.0366	− 3.6
1	7.8	7.9	95.7	.0288	8.7	8.0	8.5	78.0	.0233	12.7	− 0.5	− 1.9	55.2	.0235	12.6
2	10.1	10.1	100.0	.0269	10.3	7.4	7.9	78.1	.0241	12.1	1.8	3.2	53.6	.0214	14.8
3	12.8	12.8	100.0	.0234	13.0	7.3	7.7	83.0	.0256	11.1	2.5	3.9	52.2	.0201	15.9
4	13.5	14.1	66.8	.0152	21.4	7.0	7.2	91.7	.0278	8.9	3.5	4.8	53.4	.0198	16.3
5	14.0	14.8	54.4	.0122	25.3	7.0	7.2	91.7	.0278	8.9	2.9	4.3	51.4	.0196	16.7
6	13.0	13.5	73.5	.0170	19.2	3.1	3.2	96.5	.0361	3.9	3.3	4.4	60.6	.0228	13.5
7	14.1	14.7	65.6	.0146	22.1	− 1.4	− 1.8	86.7	.0353	4.3	2.7	3.9	58.2	.0223	13.9
8	8.9	9.7	63.3	.0183	17.8	+ 0.3	+ 0.1	93.9	.0412	1.1	3.2	4.4	57.6	.0217	14.8
9	13.1	13.1	100.0	.0231	13.2	0.2	− 0.2	87.7	.0383	2.6	3.2	4.5	54.0	.0204	15.9
10	12.7	13.0	85.0	.0198	16.2	1.2	+ 0.8	88.2	.0403	1.5	3.9	5.2	52.6	.0191	17.0
11	10.2	10.2	100.0	.0267	10.3	0.2	± 0.0	93.8	.0410	1.2	6.0	7.3	48.4	.0159	20.5
Noon.	10.2	10.9	66.1	.0179	18.3	0.2	+ 0.1	97.0	.0424	0.6	4.2	5.8	41.7	.0148	21.9
1h	11.4	11.6	89.9	.0226	13.6	0.8	0.1	78.8	.0355	4.3	5.9	7.2	48.6	.0161	20.3
2	14.0	14.3	84.0	.0184	17.6	4.0	3.2	78.8	.0410	− 1.1	4.5	5.7	55.6	.0195	16.6
3	11.3	11.6	85.4	.0215	14.6	4.1	3.5	84.1	.0440	+ 0.4	3.5	4.5	64.0	.0237	12.8
4	12.4	12.6	89.5	.0213	14.6	4.8	4.2	84.5	.0457	1.2	2.2	3.1	68.9	.0272	10.0
5	16.3	16.6	81.4	.0161	20.1	4.1	3.6	86.7	.0454	+ 1.1	3.6	4.7	60.3	.0222	14.0
6	15.2	15.6	76.6	.0161	20.0	2.1	1.7	88.6	.0422	− 0.5	4.8	6.2	47.6	.0164	19.7
7	17.2	17.3	94.0	.0176	18.4	2.1	1.6	85.7	.0409	1.2	6.2	8.4	54.9	.0191	12.1
8	16.6	16.9	81.1	.0158	20.6	1.5	1.0	85.3	.0397	1.9	4.7	5.7	62.3	.0218	14.4
9	16.3	16.8	69.2	.0136	23.4	1.9	+ 1.5	88.5	.0418	0.7	3.2	4.2	64.6	.0241	12.3
10	15.2	15.4	88.0	.0186	17.4	0.3	± 0.0	90.8	.0399	1.8	2.0	3.2	59.6	.0236	12.8
11	−13.4	−13.7	84.3	0.0190	−16.9	+ 0.3	− 0.2	84.6	0.0372	− 3.3	− 0.0	− 0.7	78.2	0.0340	− 5.3
Means.			82.24	0.0197	−18.78			86.80	0.0366	− 3.96			61.88	0.0219	−14.4

Day.	APRIL, 1872.														
	1.					2.					3.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	− 0.5	− 1.1	80.9	0.0343	− 5.0	− 5.1	− 5.6	80.4	0.0276	− 9.6	−22.5	−23.0	58.0	0.0082	−31.7
1	− 0.1	0.7	81.3	.0351	4.6	4.5	5.0	81.0	.0286	8.8	25.0	25.3	71.4	.0089	30.9
2	+ 0.2	0.4	81.4	.0357	4.2	3.3	3.8	82.2	.0305	7.5	25.5	25.7	80.3	.0097	29.3
3	− 0.3	− 0.3	100.0	.0427	0.4	2.1	2.6	83.0	.0327	5.9	27.4	27.5	89.0	.0097	29.3
4	+ 0.6	± 0.0	81.6	.0364	3.7	1.3	1.7	86.8	.0355	4.2	28.0	28.2	90.0	.0105	23.0
5	1.0	+ 0.4	81.9	.0372	3.3	1.5	2.0	83.0	.0338	5.3	25.0	25.1	90.9	.0113	26.7
6	1.7	1.1	82.3	.0387	2.4	2.5	3.0	83.0	.0319	6.5	24.2	24.5	72.5	.0095	29.8
7	1.8	1.2	82.4	.0389	− 2.3	7.1	7.4	87.6	.0272	9.8	20.5	20.9	69.1	.0109	27.0
8	+ 2.0	+ 1.7	91.4	.0434	+ 0.1	13.4	13.5	95.0	.0215	14.5	19.2	19.7	63.9	.0108	27.3
9	− 3.2	− 3.3	96.5	.0360	− 4.0	11.4	11.7	85.3	.0214	14.7	17.7	18.1	72.9	.0135	23.5
10	2.3	2.6	90.0	.0350	4.7	10.8	11.1	85.9	.0222	13.9	18.0	18.2	86.8	.0156	20.9
11	3.0	3.1	96.5	.0363	3.8	10.7	11.0	86.0	.0223	13.8	15.0	15.1	94.0	.0199	16.1
Noon.	1.4	1.7	90.0	.0367	3.6	11.4	11.9	75.1	.0189	17.0	11.2	11.4	90.0	.0229	13.4
1h	0.7	0.9	93.6	.0393	2.1	11.8	11.7	55.6	.0146	22.1	12.7	13.2	73.8	.0173	18.8
2	0.2	0.3	96.9	.0417	0.3	11.7	11.7	100.0	.0248	11.8	13.6	14.0	78.0	.0176	18.5
3	0.3	0.5	93.7	.0401	1.7	12.1	11.7	70.3	.0181	18.2	10.9	11.7	60.3	.0157	20.7
4	1.6	1.8	93.4	.0374	3.2	11.4	11.0	71.0	.0189	17.1	14.3	14.9	65.2	.0144	22.3
5	2.2	2.5	90.0	.0352	4.6	17.0	17.2	87.8	.0166	19.6	13.5	14.3	55.4	.0127	24.6
6	2.3	2.7	86.2	.0336	5.4	18.4	18.7	79.3	.0140	22.8	20.5	20.7	85.0	.0133	23.5
7	2.3	2.7	86.2	.0336	5.4	22.9	23.2	73.8	.0103	28.3	19.5	20.1	55.8	.0094	29.7
8	2.8	3.2	86.0	.0327	6.0	21.9	22.5	51.0	.0074	33.3	19.7	20.3	55.4	.0092	30.1
9	3.1	3.5	85.9	.0321	6.4	20.6	20.9	77.1	.0120	25.4	16.2	16.9	56.2	.0112	26.8
10	4.8	5.2	84.8	.0294	8.2	26.5	26.8	69.2	.0078	32.5	18.1	18.6	66.4	.0119	25.8
11	− 4.7	− 5.2	80.8	0.0282	− 9.0	−23.1	−23.4	73.6	0.0102	−28.5	−20.1	−20.5	69.5	0.0113	−26.6
Means.			88.07	0.0362	− 3.93			79.29	0.0212	−16.25			72.91	0.0127	−24.8

Day.	APRIL, 1872.														
	4.					5.					6.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	−18.3	−18.9	59.2	0.0104	−28.0	−20.1	−20.4	77.6	0.0125	−24.9	−10.0	−10.0	100.0	0.0270	−10.2
1	15.5	16.3	51.4	.0107	27.5	21.2	21.5	76.5	.0117	26.3	13.9	13.7	56.6	.0133	23.7
2	13.7	14.6	49.8	.0113	26.6	22.9	23.1	82.9	.0114	26.4	18.6	18.3	54.1	.0099	28.9
3	17.3	17.8	67.4	.0126	24.7	19.2	19.6	71.4	.0121	25.4	18.0	17.9	42.2	.0080	32.0
4	20.2	20.2	100.0	.0161	20.3	16.0	16.4	75.6	.0151	21.4	14.9	15.1	88.0	.0185	17.2
5	11.2	11.9	65.3	.0168	19.5	12.8	13.2	78.8	.0184	17.5	12.6	12.9	85.0	.0199	16.1
6	12.5	12.9	79.1	.0188	17.2	12.0	12.4	79.9	.0198	16.2	12.5	12.9	79.1	.0188	17.2
7	8.0	8.4	82.4	.0246	11.8	9.9	9.7	63.3	.0182	17.8	8.1	8.5	82.3	.0245	11.9
8	8.4	8.5	95.3	.0280	9.3	6.8	7.6	66.4	.0212	14.8	8.0	8.5	78.0	.0233	12.7
9	10.4	10.4	100.0	.0264	10.6	6.6	7.0	83.5	.0266	10.3	6.5	7.0	79.0	.0255	11.2
10	11.1	11.2	95.0	.0244	12.1	5.1	5.9	68.2	.0236	12.7	5.0	5.5	80.5	.0278	9.5
11	11.1	11.4	85.6	.0217	14.3	5.3	6.0	72.0	.0247	11.8	6.4	6.9	79.1	.0257	11.0
Noon.	11.0	11.2	90.1	.0231	13.2	5.0	5.4	84.6	.0290	8.4	7.9	8.3	82.5	.0248	11.7
1^h	8.0	8.7	68.6	.0208	15.3	4.5	4.9	85.0	.0299	7.9	8.7	9.3	72.7	.0211	14.9
2	11.8	11.8	100.0	.0247	11.9	4.5	4.9	85.0	.0299	7.9	8.2	8.8	73.2	.0217	14.3
3	12.7	13.4	62.6	.0148	21.7	3.4	3.8	85.6	.0316	6.7	7.7	8.4	69.2	.0211	14.9
4	14.6	14.7	94.3	.0203	15.7	4.0	4.6	77.4	.0281	9.2	7.1	7.7	74.3	.0233	13.0
5	11.9	12.7	58.6	.0145	22.2	4.1	4.7	77.3	.0280	9.4	7.0	7.7	70.3	.0222	14.0
6	20.1	20.4	77.6	.0125	24.9	4.5	5.0	81.0	.0286	8.8	7.1	7.7	74.3	.0233	13.0
7	20.8	21.3	61.4	.0096	29.3	4.5	5.0	81.0	.0286	8.8	7.8	8.6	64.8	.0198	16.3
8	19.8	20.7	33.9	.0055	36.8	4.5	5.2	72.8	.0259	10.8	7.7	8.5	65.0	.0200	16.2
9	13.4	13.7	84.3	.0190	16.9	4.6	5.3	72.7	.0258	11.0	8.6	9.2	72.8	.0212	14.8
10	16.1	16.5	75.5	.0150	21.5	7.4	7.8	82.9	.0254	11.2	8.8	9.4	72.6	.0209	15.0
11	−18.4	−18.6	85.4	0.0152	−21.4	− 9.1	− 9.3	90.9	0.0256	−11.1	− 9.1	− 9.7	72.3	0.0206	−15.4
Means.			75.99	0.0174	−19.65			79.02	0.0230	−13.20			73.65	0.0249	−16.25

Day.	APRIL, 1872.														
	7.					8.					9.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	−10.5	−10.9	80.1	0.0212	−14.9	− 5.2	− 5.8	76.2	0.0261	−10.7	− 6.9	− 7.2	87.8	0.0275	− 9.6
1	12.6	12.6	100.0	.0237	12.8	4.8	5.4	76.6	.0268	10.2	7.2	7.4	91.7	.0277	9.1
2	16.7	16.9	88.0	.0169	19.3	5.1	5.7	76.3	.0263	10.6	6.7	7.0	88.0	.0278	9.4
3	13.8	14.1	84.0	.0186	17.4	5.0	5.7	72.3	.0252	11.5	7.8	8.4	73.6	.0222	13.8
4	13.0	13.6	67.4	.0157	20.8	4.5	5.0	81.0	.0286	8.8	7.4	8.0	74.0	.0228	13.4
5	7.8	8.4	63.6	.0209	15.0	4.4	4.9	81.1	.0288	8.7	7.1	7.6	78.4	.0246	11.8
6	6.0	6.8	67.2	.0224	13.8	4.2	4.8	77.2	.0278	9.5	6.4	6.9	79.1	.0258	10.8
7	6.8	7.4	74.6	.0237	12.5	3.2	3.9	74.1	.0281	9.2	5.7	6.2	79.8	.0267	10.2
8	9.8	10.2	80.8	.0221	13.9	2.4	2.9	83.0	.0321	6.4	4.8	5.4	76.6	.0268	10.1
9	7.7	8.4	69.2	.0211	14.9	1.9	2.5	79.5	.0317	6.8	4.5	5.3	69.4	.0247	11.9
10	7.7	8.3	73.7	.0224	13.7	1.3	1.9	80.1	.0328	6.0	3.8	4.4	77.6	.0284	9.0
11	6.8	7.4	74.6	.0237	12.5	− 0.5	1.1	80.9	.0343	5.0	3.4	3.9	82.1	.0303	7.6
Noon.	8.2	8.4	91.2	.0267	10.2	+ 0.2	0.5	90.6	.0390	2.3	3.5	4.0	82.0	.0302	7.7
1^h	6.9	7.4	78.6	.0249	11.6	− 2.1	2.7	79.3	.0311	7.1	3.7	4.1	85.4	.0312	6.8
2	6.6	7.1	78.9	.0254	11.3	6.5	6.7	91.8	.0288	8.2	3.6	4.0	85.5	.0313	6.9
3	5.5	5.9	84.3	.0283	8.9	7.0	6.8	67.2	.0224	13.8	4.1	4.5	85.3	.0305	7.5
4	8.0	8.6	73.4	.0219	14.0	3.7	4.0	89.2	.0325	6.1	4.5	5.0	81.0	.0286	8.8
5	7.9	8.4	78.0	.0234	12.6	4.7	5.1	84.8	.0295	8.1	6.4	6.7	88.0	.0283	9.1
6	4.7	5.2	80.8	.0282	9.0	4.7	5.0	89.0	.0309	7.2	6.7	7.4	70.6	.0226	13.5
7	5.1	5.7	76.3	.0263	10.6	4.3	4.8	81.2	.0289	8.6	7.5	7.9	82.9	.0243	11.3
8	3.7	4.5	70.5	.0259	10.8	4.1	4.5	85.2	.0305	7.5	7.5	7.9	82.9	.0243	11.3
9	3.4	4.1	73.9	.0278	9.4	4.5	4.9	85.0	.0298	7.9	7.8	8.3	78.0	.0235	12.5
10	4.7	5.2	80.0	.0282	9.0	5.2	5.8	76.2	.0261	10.7	7.7	7.9	91.5	.0274	9.6
11	− 4.9	− 5.5	76.5	0.0266	−10.4	− 6.8	− 7.2	83.3	0.0263	−10.5	− 8.3	− 8.6	87.0	0.0249	−11.2
Means.			77.77	0.0235	−11.12			80.88	0.0293	− 8.39			81.59	0.0267	−10.1[illegible]

Day.	APRIL, 1872.														
	10.					11.					12.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	— 9.7	—11.0	83.0	0.0223	—13.8	—18.0	—18.5	66.5	0.0120	—25.7	—23.0	—23.3	73.7	0.0102	—28.4
1	9.6	10.9	86.0	.0224	13.7	18.3	18.7	72.3	.0129	24.3	26.4	26.6	79.4	.0091	31.3
2	10.7	12.0	85.0	.0210	15.0	21.0	21.2	84.8	.0130	24.2	30.3	30.4	87.0	.0079	32.4
3	11.2	12.2	49.4	.0127	24.4	21.4	21.5	92.5	.0140	22.9	31.0	31.0	100.0	.0087	31.1
4	11.0	12.8	59.4	.0143	22.3	21.9	22.0	92.0	.0135	23.5	23.5	26.7	79.3	.0091	31.4
5	14.0	15.0	42.0	.0097	29.2	20.5	20.5	100.0	.0158	20.6	23.7	24.0	73.0	.0097	29.2
6	13.8	14.8	42.6	.0099	28.9	19.4	19.4	100.0	.0168	19.5	22.8	23.0	83.0	.0115	26.3
7	13.2	14.3	40.4	.0093	29.9	15.8	15.8	100.0	.0203	16.0	21.3	21.2	32.0	.0052	37.6
8	13.2	14.7	19.9	.0044	39.7	14.6	14.7	94.3	.0203	15.7	20.6	20.3	48.4	.0081	30.8
9	13.2	14.8	13.8	.0031	42.7	15.4	15.6	88.0	.0182	17.8	20.9	21.3	68.7	.0107	27.8
10	12.1	13.4	33.2	.0080	32.2	13.1	13.6	73.4	.0169	19.3	23.8	24.8	71.8	.0107	27.7
11	12.0	13.5	23.5	.0056	36.8	14.2	14.6	77.4	.0170	19.2	22.3	22.6	74.8	.0107	27.5
Noon.	9.5	10.8	40.4	.0111	26.9	12.4	12.8	79.2	.0189	17.1	20.8	21.2	68.8	.0108	27.6
1h	8.7	9.9	47.2	.0134	23.6	13.5	13.8	84.2	.0189	17.0	20.9	21.0	93.0	.0143	22.4
2	8.1	9.4	43.8	.0130	24.2	13.0	13.6	67.4	.0157	20.8	19.7	19.9	85.1	.0140	22.7
3	8.0	9.1	52.8	.0156	20.6	12.7	13.4	62.6	.0148	21.7	22.3	22.7	66.6	.0095	29.4
4	10.0	10.9	57.2	.0156	20.8	13.8	14.3	72.7	.0162	20.2	20.3	20.7	69.3	.0111	26.8
5	10.4	11.7	37.9	.0099	28.6	15.5	15.8	82.4	.0169	19.3	21.4	21.7	76.3	.0115	26.5
6	10.5	11.8	46.6	.0121	25.4	16.8	17.0	88.0	.0168	19.4	25.1	25.1	100.0	.0124	25.3
7	11.3	12.6	35.2	.0090	30.5	18.3	18.8	66.2	.0117	26.1	30.5	30.8	61.4	.0054	37.2
8	13.2	14.6	25.2	.0056	36.9	19.6	19.9	78.1	.0129	24.1	29.3	29.8	38.8	.0038	41.1
9	15.0	16.4	18.0	.0037	41.0	18.3	18.8	66.2	.0117	26.1	29.7	30.1	49.7	.0047	38.9
10	15.5	17.0	42.2	.0078	43.3	19.2	19.7	63.9	.0108	27.3	29.1	29.5	51.5	.0051	38.1
11	—16.1	—17.5	42.2	0.0078	—43.3	—20.7	—21.1	63.9	0.0108	—27.4	—30.3	—30.5	74.5	0.0068	—34.5
Means.			44.58	0.0111	—28.90			80.04	0.0169	—21.25			71.09	0.0092	—30.42

Day.	APRIL, 1872.														
	13.					14.					15.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	—31.5	—31.5	100.0	0.0085	—31.6	—28.4	—28.8	53.6	0.0055	—37.1	—28.8	—29.1	61.8	0.0061	—35.4
1	28.6	28.7	88.3	.0090	30.6	30.3	30.7	47.9	.0044	39.6	29.4	29.5	87.5	.0085	31.5
2	24.1	24.4	72.6	.0095	29.7	31.9	32.2	57.4	.0046	39.1	29.0	29.1	87.9	.0087	31.1
3	27.7	18.3	60.4	.0110	27.1	33.5	33.8	51.8	.0038	40.9	24.7	24.8	91.0	.0115	26.4
4	12.6	13.3	62.7	.0149	21.6	32.7	33.0	55.0	.0042	40.0	21.4	21.6	84.4	.0126	21.6
5	19.0	19.3	78.7	.0135	23.5	26.7	27.2	48.4	.0053	37.5	18.9	19.2	78.8	.0136	23.4
6	20.1	20.2	93.0	.0150	21.5	21.0	21.2	84.8	.0130	24.2	20.4	20.6	85.0	.0134	23.4
7	19.8	19.7	36.9	.0054	35.1	21.4	21.1	46.8	.0074	33.2	21.5	21.3	39.1	.0062	35.7
8	18.8	18.9	94.0	.0161	20.1	19.6	20.4	41.8	.0069	34.1	16.4	16.2	51.6	.0108	27.3
9	18.2	18.3	94.0	.0167	19.5	19.8	20.1	77.9	.0128	24.5	14.6	14.9	84.0	.0178	18.3
10	18.5	18.8	79.2	.0139	22.9	21.3	21.4	92.6	.0141	22.8	12.4	12.6	89.5	.0213	14.6
11	17.8	17.9	94.0	.0171	19.0	19.6	20.1	62.9	.0105	27.9	11.5	11.7	89.9	.0225	13.7
Noon.	17.2	17.8	61.2	.0115	26.4	19.2	19.6	71.4	.0121	25.4	14.0	14.1	94.9	.0209	15.1
1h	15.1	15.3	88.0	.0185	17.5	18.0	18.7	52.9	.0095	29.5	14.7	14.7	100.0	.0214	14.9
2	16.2	16.2	100.0	.0198	16.3	18.6	19.2	58.4	.0102	28.5	13.8	14.3	72.7	.0162	20.2
3	15.1	15.5	76.5	.0160	20.2	19.6	20.1	62.9	.0105	27.9	14.3	14.8	72.2	.0157	20.7
4	15.5	15.9	76.1	.0156	20.8	21.3	21.8	60.4	.0091	29.9	14.5	15.1	64.9	.0142	22.5
5	14.8	15.2	76.8	.0163	19.8	20.3	20.7	69.3	.0111	26.8	12.6	13.5	52.0	.0124	24.9
6	15.6	16.0	76.0	.0155	20.9	18.1	18.8	52.6	.0094	29.7	12.8	13.7	51.6	.0122	25.2
7	15.9	16.3	75.7	.0152	21.3	19.6	20.1	62.9	.0105	27.9	14.4	14.9	72.1	.0156	20.8
8	18.4	18.8	72.2	.0128	24.4	20.1	20.5	69.5	.0113	26.6	17.3	17.7	73.6	.0139	23.0
9	21.2	21.6	68.6	.0107	27.9	19.2	19.8	56.6	.0096	29.3	17.6	18.0	73.0	.0136	23.3
10	22.1	22.5	67.0	.0097	29.2	24.7	24.7	100.0	.0127	100.0	19.0	19.7	49.9	.0086	31.1
11	—25.2	—25.6	60.8	0.0076	—33.1	—26.7	—26.9	79.1	0.0089	—30.6	—23.9	—24.2	72.8	0.0096	—29.5
Means.			77.61	0.0134	—24.17			62.79	0.0091	—34.29			74.30	0.0137	—23.23

Day.	APRIL, 1872.														
	16.					17.					18.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	−27.1	−27.2	89.0	0.0098	−29.0	−29.0	−29.2	76.6	0.0075	−33.2	−24.2	−24.7	54.6	0.0070	−34.0
1	29.4	29.5	87.5	.0085	31.5	32.5	33.3	58.1	.0077	36.3	28.9	29.5	27.0	.0028	43.8
2	28.7	29.0	65.0	.0064	35.2	37.0	37.7	58.1	.0077	36.3	30.3	30.5	74.5	.0068	34.5
3	26.0	26.0	100.0	.0117	26.1	31.7	32.3	58.1	.0077	36.3	29.0	29.1	87.9	.0087	31.1
4	26.2	26.4	79.6	.0092	30.1	32.4	32.4	58.1	.0079	36.3	29.7	29.8	87.2	.0083	31.8
5	23.7	24.0	73.0	.0097	29.2	26.2	26.8	39.6	.0045	39.4	22.4	22.7	74.6	.0106	27.6
6	22.4	22.6	83.4	.0118	25.8	23.6	23.7	91.3	.0123	25.3	22.4	22.6	83.4	.0118	25.8
7	21.1	21.1	100.0	.0154	21.3	23.1	23.2	91.8	.0126	24.8	21.4	21.7	76.3	.0115	26.5
8	19.2	19.3	93.7	.0158	20.5	19.5	19.5	100.0	.0167	19.6	18.0	18.3	79.7	.0144	22.4
9	16.7	17.1	74.8	.0144	22.2	19.5	19.6	93.4	.0155	20.8	14.9	15.4	71.2	.0150	21.4
10	14.6	15.2	64.8	.0141	22.6	16.0	16.0	100.0	.0201	16.2	15.2	15.8	64.2	.0134	23.5
11	14.3	14.9	65.2	.0144	22.3	14.3	15.1	53.8	.0119	25.8	12.8	13.4	67.6	.0160	20.5
Noon.	15.3	15.7	76.3	.0158	20.4	14.8	15.0	88.0	.0188	17.2	13.3	13.6	84.4	.0191	16.8
1h	15.3	15.6	83.8	.0171	19.1	15.1	15.5	76.5	.0160	20.2	13.7	14.1	77.9	.0175	18.6
2	15.3	15.7	76.3	.0158	20.4	16.7	16.9	88.0	.0161	19.3	15.5	15.8	82.4	.0169	19.3
3	15.7	16.3	63.4	.0129	21.3	19.6	19.8	85.2	.0141	22.6	15.3	15.6	82.8	.0171	19.1
4	15.8	16.5	57.0	.0116	26.2	19.2	19.3	93.7	.0158	20.5	13.5	14.0	73.0	.0165	19.8
5	15.5	16.2	57.6	.0119	25.7	23.3	23.7	64.6	.0089	30.9	17.0	17.1	94.0	.0178	18.3
6	16.3	16.9	62.2	.0123	25.2	23.2	23.8	47.6	.0065	35.2	20.7	21.1	68.9	.0108	27.4
7	19.0	19.5	64.5	.0110	27.0	23.9	23.9	100.0	.0132	24.0	20.8	21.4	53.4	.0084	31.8
8	19.3	19.7	71.3	.0120	25.5	25.5	25.7	80.3	.0097	29.3	20.0	20.6	54.8	.0089	30.7
9	20.1	20.4	77.6	.0125	24.9	24.8	25.0	81.0	.0101	28.5	22.9	23.2	73.8	.0103	28.3
10	22.6	22.9	74.2	.0104	27.8	25.5	25.8	70.4	.0085	31.4	18.8	19.6	43.8	.0076	32.9
11	−24.4	−24.8	62.4	0.0081	−32.1	−28.0	−28.1	88.9	0.0093	−30.0	−17.8	−18.8	33.6	0.0060	−35.9
Means.			75.11	0.0122	−25.60			75.13	0.0117	−27.47			69.62	0.0118	−26.7

Day.	APRIL, 1872.														
	19.					20.					21.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	−20.9	−21.6	45.8	0.0071	−34.2	−20.7	−21.1	68.9	0.0108	−27.4	− 7.2	− 7.8	74.2	0.0231	−13.1
1	18.5	19.4	37.8	.0067	34.5	22.8	23.1	73.9	.0103	28.2	6.0	6.6	75.4	.0249	11.7
2	18.0	18.6	59.8	.0107	27.5	22.8	23.5	39.5	.0057	37.0	5.0	5.6	76.4	.0264	10.5
3	17.0	17.7	55.3	.0105	28.0	19.3	19.7	71.3	.0120	25.5	3.9	4.6	73.4	.0270	10.0
4	17.6	17.8	87.2	.0160	20.3	18.8	19.1	78.9	.0137	23.3	2.6	3.4	72.6	.0277	9.4
5	15.7	16.4	57.2	.0117	26.0	18.0	18.3	79.7	.0144	22.4	1.7	2.6	69.8	.0281	9.3
6	13.2	13.5	84.5	.0192	16.7	17.6	17.9	80.1	.0148	21.8	− 2.0	− 2.4	86.4	.0342	5.0
7	11.2	11.2	100.0	.0254	11.4	13.4	13.7	81.3	.0190	16.9	+ 0.5	± 0.0	84.7	.0376	3.1
8	11.0	11.6	70.4	.0182	18.0	13.2	13.4	89.2	.0204	15.5	+ 1.3	+ 0.7	82.2	.0378	2.9
9	8.6	8.9	87.0	.0240	11.6	11.7	12.6	53.8	.0135	23.4	− 0.1	− 0.5	87.6	.0378	2.9
10	7.7	7.9	91.4	.0275	9.6	15.5	16.1	63.8	.0131	24.0	+ 2.3	+ 1.8	85.8	.0413	1.0
11	7.7	7.9	91.4	.0275	9.6	8.5	9.3	63.7	.0187	17.2	0.8	0.3	84.6	.0371	3.4
Noon.	7.1	7.3	91.7	.0277	9.1	8.6	9.1	77.9	.0225	13.6	1.8	1.1	79.7	.0376	3.1
1h	7.5	7.5	100.0	.0305	7.7	10.1	10.2	95.0	.0256	11.1	1.8	0.9	73.8	.0349	4.6
2	7.7	7.8	95.7	.0289	8.6	9.9	10.4	76.6	.0207	15.3	1.4	0.6	76.4	.0353	4.2
3	9.1	9.3	90.9	.0256	11.1	7.8	8.6	64.8	.0198	16.3	2.6	1.9	80.2	.0393	− 2.2
4	10.5	10.7	90.4	.0238	12.6	6.3	7.0	71.0	.0232	13.0	5.3	4.5	79.8	.0442	+ 0.7
5	9.9	10.7	61.6	.0170	19.3	5.0	5.8	68.4	.0239	12.5	6.8	6.0	89.8	.0479	2.2
6	9.7	10.0	86.0	.0233	12.9	5.4	6.1	71.9	.0246	12.0	10.3	9.7	87.5	.0607	7.3
7	8.1	8.6	78.0	.0231	12.8	5.6	6.3	71.7	.0242	12.3	11.4	10.7	86.0	.0624	7.9
8	9.5	9.9	81.1	.0225	13.6	7.9	8.6	68.8	.0209	15.1	15.0	14.3	87.4	.0746	12.1
9	12.0	12.5	74.5	.0182	17.7	5.1	7.0	27.8	.0095	29.5	15.6	14.8	85.8	.0757	12.2
10	16.9	17.3	74.4	.0142	22.5	8.9	9.4	77.6	.0220	13.9	19.5	19.3	97.0	.1022	18.8
11	−23.6	−24.9	72.1	0.0091	−30.2	− 8.1	− 8.7	73.3	0.0218	−14.2	+18.2	+18.0	96.7	0.0960	+17.5
Means.			77.67	0.0195	−17.75			70.49	0.0177	−19.23			81.84	0.0456	− 3.7

Day.	APRIL, 1872.														
	22.					23.					24.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	+17.9	+17.7	96.7	0.0948	+17.2	+11.7	+11.2	90.1	0.0663	+ 9.7	+12.3	+11.8	90.3	0.0683	+ 9.9
1	16.9	16.7	96.6	.0904	16.1	12.8	12.2	88.4	.0682	10.1	11.7	11.2	90.1	.0665	9.3
2	16.3	16.0	94.8	.0862	15.1	14.3	13.8	90.8	.0753	12.2	11.7	11.2	90.1	.0665	9.3
3	16.1	15.9	96.5	.0870	15.3	14.3	13.8	90.8	.0753	12.2	11.7	11.2	90.1	.0665	9.3
4	16.1	15.8	94.8	.0854	14.9	13.9	13.4	90.7	.0739	11.7	11.7	11.2	90.1	.0665	9.3
5	15.2	15.0	06.4	.0834	14.4	13.0	12.4	88.5	.0692	10.3	11.7	11.2	90.1	.0665	9.3
6	15.0	14.3	87.4	.0746	12.1	12.4	11.8	88.0	.0639	8.5	11.2	10.7	89.9	.0651	8.7
7	15.8	15.2	89.4	.0795	13.4	13.3	12.8	90.6	.0718	10.2	12.4	11.9	90.3	.0687	10.0
8	16.4	15.7	88.1	.0804	13.6	13.3	13.0	94.3	.0749	12.0	12.0	11.4	87.8	.0627	8.1
9	14.0	13.6	92.5	.0758	12.3	13.4	13.1	94.3	.0753	12.1	13.1	12.5	88.6	.0696	10.4
10	17.0	15.8	79.7	.0759	12.2	13.8	13.5	94.4	.0767	12.5	13.2	12.6	88.6	.0699	10.5
11	16.8	15.8	83.0	.0772	12.7	14.3	13.8	90.8	.0753	12.2	13.1	12.7	92.4	.0727	11.3
Noon.	18.6	17.7	85.6	.0866	15.2	14.5	14.0	90.8	.0761	12.4	15.0	14.7	94.6	.0811	13.8
1^h	14.1	13.8	94.5	.0777	12.8	14.9	14.5	92.7	.0791	13.2	15.2	14.6	89.3	.0772	12.6
2	15.3	14.7	89.3	.0776	12.7	15.3	14.8	91.1	.0792	13.2	14.5	13.9	89.0	.0745	11.9
3	16.0	15.2	86.0	.0772	12.7	15.2	14.7	91.0	.0788	13.1	13.3	12.6	86.7	.0688	10.2
4	15.6	15.1	91.1	.0803	13.5	14.5	14.0	90.8	.0761	12.4	12.7	12.9	83.2	.0676	9.7
5	17.7	17.1	90.1	.0874	15.4	14.5	14.0	90.8	.0761	12.4	13.9	13.1	85.0	.0694	10.3
6	12.7	12.5	96.1	.0743	11.8	14.7	14.1	89.1	.0753	12.1	13.0	12.4	88.5	.0692	10.3
7	11.1	10.8	94.0	.0674	9.7	14.1	13.5	88.9	.0731	11.5	10.7	9.9	83.5	.0589	6.6
8	12.6	12.2	92.3	.0709	10.8	13.2	12.6	88.6	.0699	10.4	9.1	8.5	86.9	.0572	5.9
9	11.3	10.9	92.0	.0656	9.4	13.2	12.6	88.6	.0699	10.4	6.5	6.1	90.2	.0528	4.3
10	10.0	9.5	89.4	.0613	9.7	13.2	12.6	88.6	.0699	10.4	5.3	4.8	87.4	.0484	2.4
11	+11.6	+11.1	90.0	0.0660	+ 9.7	+13.2	+12.6	88.6	0.0699	+10.4	+ 3.4	+ 2.9	83.4	0.0439	+ 0.3
Means.			91.096	0.0785	+13.03			90.050	0.0733	+11.40			88.63	0.0658	+ 8.10

Day.	APRIL, 1872.														
	25.					26.					27.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	+ 1.6	+ 1.1	85.4	0.0399	− 1.8	− 5.0	− 5.3	88.7	0.0304	− 7.5	− 9.4	−10.0	72.0	0.0202	−15.8
1	1.2	+ 0.4	76.2	.0349	4.5	3.6	3.9	89.3	.0327	6.0	9.0	9.7	67.3	.0195	16.8
2	+ 0.3	− 0.2	84.6	.0372	3.3	3.6	4.0	85.5	.0316	6.9	8.6	9.3	67.7	.0201	16.2
3	− 0.6	1.0	87.2	.0368	3.5	2.5	3.1	78.9	.0306	7.5	7.0	7.7	70.3	.0222	14.0
4	+ 0.1	0.4	84.5	.0369	3.5	1.9	2.3	86.5	.0344	4.9	6.4	7.0	75.0	.0243	12.1
5	− 0.7	1.0	90.0	.0380	2.8	0.8	1.2	87.1	.0364	3.7	4.5	5.1	76.9	.0273	9.9
6	0.8	1.3	83.7	.0351	4.5	− 0.5	− 0.9	87.3	.0370	3.4	− 2.0	− 2.4	86.4	.0342	5.0
7	1.0	1.5	83.5	.0348	4.7	+ 0.3	+ 0.2	97.0	.0426	− 0.8	± 0.0	± 0.0	100.0	.0433	− 0.3
8	1.0	1.4	86.9	.0360	3.9	4.2	3.9	92.1	.0485	+ 2.4	+ 3.1	+ 3.0	97.3	.0487	+ 2.5
9	1.2	1.6	86.8	.0357	4.1	2.6	2.1	86.0	.0420	− 0.7	2.3	2.2	97.3	.0468	1.7
10	1.2	1.6	86.8	.0357	4.1	5.6	5.2	90.0	.0505	+ 3.5	2.2	1.9	91.5	.0438	0.3
11	1.3	1.5	93.5	.0382	2.7	4.0	3.7	92.1	.0480	+ 2.2	2.1	1.8	91.5	.0436	0.2
Noon.	1.5	1.8	90.0	.0365	3.7	4.6	3.8	79.2	.0424	− 0.4	2.3	2.0	91.5	.0441	+ 0.4
1^h	2.3	2.7	86.3	.0336	5.4	3.4	2.5	75.5	.0384	2.8	2.5	2.1	88.8	.0431	− 0.1
2	3.0	3.5	82.5	.0310	7.1	3.3	2.4	75.4	.0381	2.9	2.2	1.8	88.6	.0424	0.4
3	3.5	4.0	82.0	.0302	7.7	1.7	0.8	73.6	.0346	4.7	2.2	1.6	82.7	.0397	1.8
4	3.3	3.7	85.7	.0318	6.6	1.5	+ 0.7	75.5	.0356	4.1	0.8	+ 0.2	81.8	.0368	3.5
5	4.1	4.5	85.3	.0305	7.5	+ 0.5	± 0.0	84.7	.0376	3.1	+ 0.4	± 0.0	87.8	.0387	2.4
6	4.5	4.9	85.0	.0299	7.9	− 0.1	− 0.7	81.3	.0351	4.6	− 1.0	− 1.6	80.4	.0334	5.7
7	3.7	4.1	85.5	.0312	7.0	1.7	2.3	79.7	.0321	6.5	2.1	2.6	83.0	.0327	5.9
8	4.2	4.7	81.3	.0291	8.5	2.3	2.8	83.0	.0323	6.2	3.6	4.0	85.5	.0313	6.9
9	4.6	5.0	84.9	.0297	8.2	4.7	5.5	69.0	.0244	12.1	5.7	6.2	79.8	.0267	10.2
10	4.4	4.6	92.6	.0326	6.0	7.7	8.4	69.2	.0211	14.9	5.7	6.1	84.1	.0280	9.2
11	− 4.5	− 4.7	92.6	0.0325	− 6.2	− 9.6	−10.3	66.7	0.0186	−17.5	− 6.5	− 7.1	74.9	0.0242	−12.2
Means.			85.950	0.0341	− 5.22			82.221	0.0356	− 4.71			83.438	0.0340	− 6.38

APRIL, 1872.

Day.	28.					29.					30.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^{h}	− 6.4	− 6.9	79.1	0.0257	−11.0	− 2.2	− 3.0	72.0	0.0284	− 8.9	+ 1.7	+ 1.2	85.5	0.0401	− 1.6
1	6.6	7.2	74.8	.0240	12.3	− 0.6	− 1.4	75.4	.0314	6.8	0.4	0.1	90.9	.0401	1.7
2	7.0	7.5	78.5	.0248	11.7	+ 1.5	+ 0.5	70.7	.0328	5.9	0.6	0.1	84.8	.0378	3.0
3	5.2	5.6	84.6	.0290	8.4	1.1	0.1	70.2	.0320	6.5	0.6	0.3	91.0	.0405	1.4
4	3.7	4.0	89.2	.0325	6.1	4 0	2.9	75.4	.0381	− 3.3	0.7	0.4	91.0	.0407	1.3
5	− 1.8	− 1.9	95.7	.0386	2.5	5.3	4.5	79.8	.0442	+ 0.5	0.5	0.2	90.9	.0403	− 1.5
6	+ 0.3	+ 0.2	97.0	.0426	− 0.8	5.6	5.0	84.9	.0477	2.1	1.4	1.2	94.1	.0435	+ 0.1
7	3.8	3.5	92.0	.0475	+ 2.0	6.8	6.2	85.6	.0508	3.4	2.5	2.2	91.6	.0445	0.6
8	5.0	4.6	89.8	.0490	2.6	8.0	7.5	88.6	.0556	5.4	4.8	4.5	92.4	.0499	3.1
9	6.8	5.8	76.2	.0451	0.9	10.8	10.4	91.8	.0651	8.8	4.5	4.1	89.6	.0478	2.1
10	7.2	6.2	76.5	.0462	1.3	10.1	9.1	87.6	.0616	7.7	4.6	4.3	92.3	.0495	2.9
11	6.4	5.5	78.1	.0456	1.1	10.6	9.8	83.4	.0586	6.5	4.5	4.0	86.9	.0464	+ 1.5
Noon.	7.0	6.2	80.9	.0485	+ 2.4	9.6	8.4	86.8	.0569	5.8	3.5	2.6	75.6	.0386	− 2.6
1^{h}	4.5	3.7	79.2	.0422	− 0.5	9.1	8.4	84.6	.0557	5 4	3.0	2.0	72.3	.0360	4.0
2	3.1	2.3	78.0	.0390	2.2	9.9	9.7	95.8	.0653	8.9	1.8	0.8	71.0	.0334	5.5
3	3.7	2.8	75.8	.0390	2.3	9.5	9.1	91.3	.0612	7.5	2.0	1.1	74.1	.0353	4.4
4	2.9	1.9	72.2	.0258	4.1	10.2	9.3	81.1	.0560	5.5	1.8	1.0	76.8	.0362	3.8
5	2.0	1.0	71.2	.0339	5.2	9.9	9.0	80.8	.0551	5.2	+ 1.8	+ 1.0	76.8	.0362	3.8
6	2.4	1.5	74.5	.0361	3.9	8.2	7.7	88.7	.0561	5.6	− 0.1	− 0.8	78.1	.0338	5.4
7	1.3	+ 0.1	64.5	.0297	7.9	6.6	6.2	90.2	.0531	4.4	1.8	2.5	75.5	.0305	7.5
8	+ 0.4	− 0.6	69.4	.0306	7.5	5.5	5.0	87.5	.0489	2.6	2.6	3.3	74.7	.0291	8.4
9	− 0.4	1.3	71.7	.0305	7.6	4.6	4.1	87.0	.0467	1.6	3.2	4.0	71.0	.0267	10.2
10	1.7	2.5	73.0	.0393	8.3	4.1	3.8	92.1	.0482	+ 2.3	4.3	4.9	77.1	.0276	9.6
11	− 2.0	− 2.8	72.4	0.0388	− 8.7	+ 2.3	+ 1.8	85.8	0.0413	− 1.0	− 4.6	− 5.2	76.8	0.0271	−10.0
Means.			78.97	0.0368	− 4.20			84.05	0.0496	+ 2.37			82.53	0.0380	− 3.14

MAY, 1872.

Day.	1.					2.					3.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^{h}	− 5.9	− 6.4	79.6	0.0264	−10.4	− 0.1	− 0.9	75.8	0.0324	− 6.2	+ 0.3	+ 0.1	93.9	0.0412	− 1.1
1	5.9	6.4	79.6	.0264	10.4	+ 0.9	+ 0.0	72.9	.0330	5.8	− 0.7	− 0.7	100.0	.0420	0.9
2	4.7	5.3	76.7	.0269	10.1	− 0.5	− 1.6	64.8	.0275	9.7	2.7	2.7	100.0	.0382	2.9
3	6.0	6.5	79.5	.0263	10.5	+ 2.6	+ 1.7	74.7	.0365	3.7	1.7	1.7	96.7	.0388	2.4
4	4.7	5.2	80.8	.0282	9.0	3.9	2.8	70.5	.0366	3.8	− 0.3	− 0.3	100.0	.0427	− 0.5
5	5.5	6.1	75.9	.0257	11.0	4.3	3.6	81.6	.0432	− 0.2	+ 1.5	+ 1.4	97.1	.0451	+ 0.9
6	4.3	4.8	81.2	.0289	8.6	5.1	4.3	79.6	.0437	+ 0.3	3.6	3.6	100.0	.0511	3.5
7	2.8	3.4	78.6	.0301	7.7	5.7	4.9	80.2	.0452	0.9	5.1	5.0	97.5	.0510	4.6
8	− 2.0	− 2.5	83.0	.0329	5.8	5.6	5.0	84.9	.0477	2.1	6.9	6.7	95.2	.0568	6 0
9	+ 1.3	+ 0.7	82.2	.0378	2.9	5.5	5.0	87.5	.0489	2.6	6.5	6.2	92.7	.0543	4.9
10	+ 0.3	+ 0.1	93.9	.0412	1.0	6.0	5.4	85.2	.0487	2 5	6.8	6.6	95.2	.0565	5.9
11	− 0.2	− 0.7	84.3	.0363	3.8	6.9	6.4	88.0	.0525	4.2	4.8	4.2	97.4	.0493	3.7
Noon.	+ 1.0	+ 0.7	91.1	.0413	1.0	7.5	7.0	88.3	.0541	4.8	4.8	4.5	92.4	.0499	3.1
1^{h}	0.0	− 0.2	93.8	.0406	1.4	7.9	7 4	88.5	.0552	5.3	4.2	3.6	84.1	.0442	+ 0.5
2	2.2	+ 1.0	65.8	.0316	6.7	8.5	7.9	86.6	.0557	5.4	3.9	3.1	78.7	.0408	− 1.3
3	1.8	0.5	62.4	.0294	8.3	8.3	7.8	88.7	.0564	5.7	3.7	2.9	78.5	.0404	1.5
4	2.9	1.7	66.5	.0330	5.9	8.4	7.9	88.8	.0567	5.8	3.2	2.4	78.0	.0392	2.1
5	1.1	0.0	67.2	.0307	7.4	7.5	6.9	86.0	.0527	4.2	3.2	2.2	72.5	.0365	3.8
6	3.2	2.0	67.0	.0337	5.4	6.3	5.9	90.2	.0522	4.1	2.1	1.3	77.0	.0368	3.5
7	1.2	0.0	64.4	.0295	8.1	3.8	3.4	89.2	.0460	1.4	1.5	0.8	79.5	.0369	3.4
8	2.0	+ 0.9	68.3	.0326	6.2	3.2	2.8	89.0	.0450	0.8	1.4	0.8	82.2	.0380	2.7
9	0.3	− 0.5	75.8	.0332	5.9	2.6	2.2	88.8	.0433	+ 0.1	+ 0.5	+ 0.1	87.9	.0389	2.3
10	1.0	+ 0.1	73.1	.0332	5.7	2.1	1.6	85.7	.0409	− 1.2	− 1.6	− 2.4	73.2	.0395	8.2
11	+ 1.4	+ 0.5	73.5	0.0340	− 5.1	+ 0.4	+ 0.0	87.8	0.0387	− 2.4	− 3.6	− 4.2	77.8	0.0287	− 8.7
Means.			76.84	0.0321	− 6.60			84.30	0.0455	+ 0.72			87.39	0.0432	− 0.51

Day.	MAY, 1872.														
	4.					5.					6.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	− 3.6	− 4.0	85.5	0.0313	− 6.9	− 8.7	− 9.5	63.5	0.0185	−17.5	− 1.1	− 1.7	80.3	0.0332	− 5.8
1	− 3.0	− 3.5	82.5	.0310	7.1	8.7	9.5	63.5	.0185	17.5	0.4	0.9	84.1	.0359	4.1
2	+ 1.2	+ 0.3	73.3	.0336	5.4	6.0	6.5	79.5	.0263	10.5	0.8	1.2	87.1	.0364	3.7
3	1.5	0.9	82.3	.0383	2.6	4.5	5.0	81.0	.0286	8.8	− 0.3	− 0.7	87.5	.0374	3.1
4	3.4	2.7	81.0	.0412	1.3	2.9	3.6	74.4	.0285	8.7	+ 0.4	± 0.0	87.8	.0387	2.4
5	3.0	2.4	83.3	.0415	1.0	2.7	3.2	82.8	.0315	6.7	1.0	+ 0.5	85.1	.0386	2.5
6	3.0	2.4	83.3	.0415	1.0	1.8	2.3	83.0	.0333	5.6	1.8	1.5	91.3	.0426	0.4
7	2.9	2.4	86.1	.0427	0.4	0.8	1.4	80.6	.0338	5.4	3.3	2.7	83.6	.0422	− 0.6
8	3.0	2.3	80.6	.0402	1.8	1.0	1.6	80.4	.0334	5.7	2.5	2.4	97.2	.0473	+ 1.9
9	2.8	2.1	80.4	.0398	2.0	0.3	0.6	90.5	.0388	2.4	5.5	4.8	82.5	.0461	1.3
10	2.4	1.8	82.9	.0401	1.6	1.0	1.8	75.0	.0307	7.3	7.0	6.7	92.9	.0557	5.4
11	2.2	1.5	79.9	.0384	2.6	0.7	1.3	80.7	.0340	5.3	6.8	6.5	92.8	.0552	5.2
Noon.	1.5	0.9	82.3	.0383	2.6	− 0.8	1.6	75.2	.0311	7.1	6.7	5.9	80.8	.0477	2.1
1^h	+ 1.0	+ 0.6	88.1	.0399	1.7	+ 0.4	− 0.3	78.4	.0347	4.8	8.7	8.0	84.4	.0545	5.0
2	− 1.5	− 1.9	86.7	.0351	4.5	1.1	+ 0.4	79.0	.0361	3.9	8.3	7.9	90.9	.0580	6.3
3	3.3	3.9	78.1	.0292	8.4	1.2	+ 0.4	76.2	.0349	4.5	7.4	6.8	85.9	.0524	4.0
4	3.8	4.6	70.4	.0257	10.9	+ 0.8	± 0.0	75.8	.0341	5.1	9.1	8.3	82.5	.0542	4.9
5	4.6	5.3	72.7	.0258	11.0	− 0.3	− 1.1	75.7	.0320	6.4	9.7	8.6	76.3	.0517	3.7
6	4.7	5.5	69.0	.0244	12.1	0.4	1.2	75.6	.0318	6.5	9.0	7.9	75.8	.0496	2.8
7	5.4	6.2	67.8	.0233	12.9	0.7	1.4	77.6	.0327	6.1	9.0	7.9	75.8	.0496	2.8
8	6.7	7.5	67.5	.0214	14.7	− 0.2	− 1.0	75.8	.0322	6.3	7.0	5.9	74.0	.0443	0.5
9	7.8	8.5	69.0	.0210	15.0	+ 0.7	+ 0.1	81.7	.0366	3.6	6.1	5.2	77.9	.0448	0.7
10	9.1	9.7	72.3	.0206	15.3	1.1	+ 0.3	76.1	.0347	4.7	5.9	5.1	80.3	.0457	1.1
11	− 9.5	−10.2	66.8	0.0187	−17.3	+ 0.4	− 0.1	84.7	0.0374	− 3.2	+ 6.1	+ 5.1	75.5	0.0434	+ 0.1
Means.			77.99	0.0318	− 6.67			77.78	0.0318	− 6.82			83.85	0.0460	+ 1.05

Day.	MAY, 1872.														
	7.					8.					9.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	+ 6.2	+ 5.5	82.9	0.0479	+ 2.2	+ 3.9	+ 3.2	81.3	0.0423	− 0.6	+ 4.8	+ 1.1	81.9	0.0441	+ 0.5
1	5.6	4.9	82.6	.0463	1.5	3.2	2.8	89.0	.0447	+ 0.7	6.2	5.5	82.9	.0479	2.2
2	6.0	5.1	77.9	.0446	+ 0.6	4.2	3.7	86.8	.0457	1.2	6.1	5.5	85.3	.0490	2.6
3	4.7	3.8	76.7	.0413	− 1.1	5.4	4.9	87.5	.0487	2.5	7.0	6.3	83.5	.0500	3.1
4	5.2	4.2	74.6	.0408	− 1.3	8.2	7.7	88.7	.0562	5.6	7.2	6.6	85.8	.0519	3.8
5	5.9	5.4	87.6	.0499	+ 3.1	7.8	7.2	86.2	.0535	4.5	11.4	10.9	90.0	.0654	7.7
6	5.3	4.7	84.8	.0470	1.8	8.2	7.7	88.7	.0562	5.6	13.5	13.1	92.4	.0740	11.7
7	6.6	6.0	85.5	.0502	3.2	8.3	7.8	88.7	.0561	5.7	13.3	12.8	90.6	.0718	11.0
8	6.8	6.3	88.0	.0522	4.1	12.0	11.6	92.1	.0688	10.2	15.2	11.6	89.3	.0772	12.6
9	7.3	6.7	85.8	.0521	3.9	13.5	13.1	92.4	.0741	11.7	13.5	13.0	90.6	.0725	11.3
10	7.8	7.1	83.9	.0521	4.0	13.4	13.3	98.1	.0782	13.0	14.7	14.2	90.9	.0769	12.6
11	7.5	7.1	90.7	.0555	5.3	11.7	11.4	94.1	.0694	10.4	14.9	14.6	91.6	.0807	13.7
Noon.	8.4	7.9	88.8	.0567	5.8	12.2	11.7	90.3	.0680	9.8	15.2	15.0	96.4	.0834	14.4
1^h	7.8	7.1	83.9	.0521	4.0	11.2	10.8	92.0	.0663	9.3	15.1	14.7	92.8	.0798	13.4
2	9.0	8.5	89.0	.0584	4.2	10.4	9.9	89.6	.0624	7.7	13.7	13.0	86.9	.0702	10.6
3	8.2	7.5	84.2	.0533	4.5	9.8	9.1	85.1	.0577	6.2	13.4	12.8	88.7	.0706	10.7
4	9.7	9.1	87.2	.0589	6.6	8.8	8.0	82.2	.0533	4.5	13.6	13.0	88.7	.0713	10.9
5	9.6	9.2	91.3	.0614	7.6	8.5	7.9	86.6	.0554	5.3	12.8	12.2	88.4	.0678	9.8
6	8.3	7.7	86.5	.0549	5.1	8.0	7.1	79.5	.0498	3.0	12.1	11.7	92.1	.0691	10.3
7	7.4	6.8	85.9	.0524	4.0	7.6	6.5	74.5	.0457	1.1	11.5	10.9	88.0	.0642	8.6
8	7.2	6.3	78.9	.0477	2.0	7.2	6.3	78.9	.0477	+ 2.0	11.3	10.8	89.9	.0651	8.8
9	6.8	6.2	85.6	.0508	3.4	7.7	6.3	67.6	.0419	− 0.7	10.5	10.0	89.6	.0627	8.0
10	4.5	3.9	84.3	.0450	0.8	7.1	6.6	88.1	.0531	+ 4.4	9.2	8.9	93.5	.0619	7.8
11	+ 4.2	+ 3.6	84.1	0.0442	+ 0.5	+ 6.3	+ 5.7	85.4	0.0495	+ 2.8	+ 5.7	+ 5.0	82.6	0.0466	+ 1.6
Means.			84.61	0.0507	+ 3.16			86.39	0.0561	+ 5.25			88.97	0.0656	+ 8.67

MAY, 1872.

Day.	10.					11.					12.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+ 4.3	+ 3.7	84.2	0.0445	+ 0.6	+ 7.5	+ 6.9	86.0	0.0527	+ 4.2	+ 6.9	+ 6.3	85.7	0.0511	+ 3.5
1	4.1	3.2	76.1	.0399	− 1.9	7.8	7.2	86.2	.0535	4.5	7.7	7.0	83.8	.0518	3.9
2	6.1	5.6	87.7	.0504	+ 3.3	7.7	7.2	88.4	.0547	5.1	7.5	6.9	86.0	.0527	4.2
3	7.2	6.8	90.5	.0547	5.0	8.9	8.3	86.8	.0566	5.7	8.2	7.1	75.0	.0472	1.8
4	7.5	6.9	86.0	.0527	4.2	8.2	7.5	84.2	.0535	4.6	8.0	7.4	86.3	.0540	4.7
5	9.7	9.0	85.0	.0574	6.1	9.5	8.8	84.8	.0569	5.8	8.7	7.9	82.2	.0531	4.4
6	8.1	7.5	86.4	.0543	4.9	10.2	9.4	83.2	.0574	6.0	9.9	9.3	87.3	.0595	6.9
7	9.8	9.2	87.2	.0592	6.7	9.0	8.2	82.4	.0539	4.7	10.6	10.0	87.6	.0615	7.6
8	14.3	13.7	89.0	.0738	11.7	10.8	10.1	85.7	.0606	7.3	12.2	11.5	86.2	.0649	8.8
9	15.7	15.3	93.0	.0822	14.1	10.6	9.9	85.6	.0600	7.1	11.5	10.9	88.0	.0642	8.6
10	15.2	14.8	92.9	.0802	13.5	10.4	9.7	85.5	.0595	6.9	12.2	11.1	78.4	.0591	6.7
11	14.3	14.1	96.3	.0800	13.5	10.2	9.6	87.4	.0604	7.2	12.3	11.4	82.4	.0623	7.9
Noon.	15.0	14.4	89.2	.0761	12.4	9.3	8.3	78.2	.0519	4.0	11.5	10.7	83.9	.0512	7.6
1h	15.6	14.5	80.6	.0709	10.8	10.0	9.2	83.1	.0568	5.8	12.1	11.0	78.3	.0588	6.6
2	15.7	15.0	87.7	.0776	12.8	9.3	8.5	82.7	.0548	5.1	12.7	11.9	81.5	.0652	8.9
3	15.1	14.0	80.2	.0691	10.2	9.5	8.7	82.8	.0553	5.3	12.1	11.4	86.2	.0646	8.7
4	14.0	13.1	83.3	.0683	10.0	9.1	8.1	78.0	.0513	3.7	13.0	12.3	86.6	.0678	9.9
5	13.0	12.3	86.6	.0678	9.9	8.8	8.0	82.2	.0533	4.5	12.3	11.4	82.4	.0623	7.9
6	12.1	11.4	85.2	.0646	8.7	8.5	7.6	79.8	.0512	3.6	12.0	11.0	80.2	.0599	7.0
7	11.2	10.6	87.9	.0633	8.3	8.1	7.2	79.6	.0501	3.1	10.6	9.8	83.4	.0586	6.5
8	9.7	9.1	87.2	.0589	6.6	7.8	7.0	81.6	.0506	3.4	10.3	9.7	87.5	.0606	7.3
9	9.2	8.6	86.9	.0575	6.1	7.4	6.7	83.7	.0511	3.6	9.2	8.1	75.9	.0502	3.2
10	9.1	8.4	84.6	.0557	5.4	7.4	6.7	83.7	.0511	3.6	8.9	8.1	82.3	.0536	4.6
11	+ 8.1	+ 7.5	86.4	0.0543	+ 4.9	+ 7.9	+ 7.2	84.0	0.0524	+ 4.1	+ 8.5	+ 7.6	79.8	0.0512	+ 3.6
Means.			86.71	0.0631	+ 7.83			83.57	0.0546	+ 4.95			83.33	0.0581	+ 6.20

MAY, 1872.

Day.	13.					14.					15.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+ 8.3	+ 7.3	77.4	0.0492	+ 2.7	+14.9	+14.3	89.2	0.0761	+12.3	+15.6	+14.8	85.8	0.0757	+12.2
1	8.7	7.8	79.9	.0517	3.9	15.7	15.1	89.4	.0791	13.3	14.8	14.2	89.1	.0757	12.2
2	10.1	9.1	78.8	.0542	4.9	14.3	13.6	87.0	.0723	11.3	16.3	15.2	81.1	.0737	11.6
3	10.6	9.8	83.4	.0586	6.5	15.9	15.0	84.2	.0753	12.1	17.5	16.8	88.4	.0850	14.8
4	11.3	10.3	79.7	.0577	6.2	16.7	15.9	86.4	.0804	13.5	18.9	17.8	82.6	.0846	14.7
5	12.7	11.4	74.8	.0558	6.5	18.1	17.2	85.3	.0843	14.6	19.2	18.2	81.2	.0876	15.5
6	13.5	12.3	77.4	.0620	7.7	18.3	17.6	88.6	.0886	15.6	19.9	19.0	86.2	.0925	16.7
7	14.5	13.4	79.8	.0670	9.6	18.2	17.4	86.9	.0864	15.2	20.5	19.8	89.5	.0987	18.1
8	14.6	13.6	81.7	.0788	10.0	19.6	18.8	87.6	.0928	16.9	21.4	20.5	86.9	.0998	18.4
9	15.7	14.8	84.1	.0746	11.8	21.2	20.1	83.9	.0955	17.4	21.5	20.6	86.9	.1003	18.5
10	15.9	14.8	80.8	.0721	11.2	20.7	19.7	85.1	.0947	17.2	22.9	21.4	79.3	.0975	17.9
11	16.7	15.5	79.6	.0737	11.8	21.2	20.6	91.2	.1038	19.2	22.4	22.1	96.0	.1204	22.5
Noon.	16.3	15.2	79.3	.0721	11.2	21.3	20.5	88.3	.1010	18.5	22.4	21.7	90.3	.1081	20.1
1h	16.9	15.8	79.7	.0759	12.2	21.1	20.3	88.2	.1000	18.3	22.5	22.1	94.7	.1192	22.3
2	17.2	16.5	88.3	.0837	14.5	20.9	20.1	88.1	.0990	18.1	22.3	21.9	94.6	.1181	22.0
3	17.0	16.3	88.3	.0828	14.3	20.4	19.8	90.9	.0999	18.3	22.7	22.3	91.7	.1209	22.6
4	17.2	16.6	89.9	.0851	14.8	20.1	19.5	90.9	.0984	18.0	23.2	23.0	97.3	.1266	23.6
5	17.2	16.2	83.2	.0788	13.2	19.7	18.8	86.1	.0916	16.5	22.7	21.9	88.9	.1081	20.1
6	15.5	14.5	82.3	.0722	11.3	19.1	18.1	84.2	.0871	15.4	22.0	20.9	84.4	.0995	18.3
7	15.6	14.8	85.8	.0757	12.2	18.2	17.4	86.9	.0864	15.2	21.1	20.2	86.7	.0983	18.1
8	15.5	14.8	87.6	.0766	12.6	17.9	17.0	85.2	.0834	14.4	20.3	19.8	92.5	.1009	18.6
9	15.6	14.9	87.7	.0771	12.7	16.4	15.5	84.6	.0773	12.8	20.0	19.4	90.8	.0979	17.9
10	14.3	13.5	85.2	.0708	10.7	16.2	15.3	84.5	.0765	12.6	19.4	18.7	89.1	.0934	17.0
11	+14.1	+13.3	85.1	0.0701	+10.5	+15.8	+15.0	85.9	0.0764	+12.4	+18.5	+17.8	88.7	0.0895	+15.8
Means.			82.49	0.0698	+10.12			87.02	0.0878	+15.38			88.70	0.0988	+17.90

Day.	MAY, 1872.														
	16.					17.					18.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h.	+18.0	+17.4	90.2	0.0887	+15.7	+18.2	+16.9	78.9	0.0781	+13.0	+16.7	+15.5	79.6	0.0737	+11.8
1	18.3	17.7	90.3	.0900	16.1	18.4	17.5	85.5	.0857	15.0	17.2	16.0	79.8	.0757	12.5
2	18.7	18.2	92.0	.0934	17.0	19.2	18.2	84.2	.0876	15.5	18.0	16.9	82.4	.0807	13.7
3	18.8	18.2	90.4	.0923	16.6	19.6	18.8	87.6	.0933	17.0	18.7	17.8	85.6	.0870	15.3
4	18.5	17.9	90.3	.0909	16.3	18.5	17.8	88.7	.0895	15.8	18.6	17.8	87.1	.0882	15.6
5	20.2	19.2	84.8	.0923	16.6	19.7	19.1	90.8	.0965	17.6	20.6	19.7	86.5	.0958	17.5
6	20.3	19.1	81.9	.0895	15.9	19.3	18.3	84.3	.0881	15.7	23.5	22.4	85.0	.1072	20.0
7	20.3	19.2	83.4	.0912	16.3	20.9	19.8	83.7	.0940	17.1	22.4	21.2	83.1	.0998	18.3
8	21.4	20.0	79.6	.0915	16.4	22.3	20.9	80.3	.0960	17.5	23.3	22.3	86.3	.1080	20.1
9	21.3	20.2	83.9	.0960	17.5	21.9	20.7	82.9	.0973	17.7.	22.9	22.0	87.6	.1075	20.0
10	23.3	22.1	83.6	.1045	19.3	22.8	21.8	86.1	.1053	19.5	23.7	22.9	89.2	.1135	21.1
11	23.3	22.2	84.9	.1062	19.7	21.2	20.5	89.8	.1022	18.9	22.6	21.6	86.0	.1042	19.3
Noon.	23.0	22.0	86.2	.1063	19.7	20.9	20.1	88.1	.0990	18.1	22.8	22.0	88.9	.1086	20.2
1h	23.7	22.8	87.8	.1118	20.8	20.5	19.3	82.0	.0905	16.1	23.0	21.9	84.9	.1045	19.4
2	23.8	23.6	79.4	.1300	24.2	20.4	19.1	80.5	.0884	15.7	22.2	20.7	78.8	.0942	16.9
3	23.4	23.4	100.0	.1311	23.2	20.3	19.0	80.4	.0879	15.6	22.8	21.5	82.0	.1002	18.5
4	22.9	22.0	87.6	.1075	20.0	20.3	19.0	80.4	.0879	15.6	22.1	20.6	78.7	.0937	16.7
5	22.4	21.2	83.1	.0998	18.3	20.4	19.2	81.9	.0900	16.0	21.5	20.0	78.1	.0907	16.1
6	21.8	20.5	81.5	.0952	17.2	19.4	18.6	87.5	.0919	16.6	21.4	20.2	82.6	.0948	17.2
7	21.5	20.5	85.5	.0986	18.1	18.9	18.1	87.3	.0895	15.9	20.5	19.0	77.6	.0855	14.9
8	21.1	20.0	83.8	.0950	17.3	19.0	17.0	69.2	.0710	14.0	19.2	17.9	79.6	.0828	14.2
9	19.6	18.8	87.6	.0928	16.9	17.4	16.3	81.7	.0781	13.0	19.0	17.7	79.5	.0819	13.9
10	20.8	19.9	86.6	.0968	17.7	17.1	16.0	81.5	.0769	12.6	19.0	17.7	79.5	.0819	13.9
11	+17.7	+17.0	88.4	0.0858	+15.0	+17.0	+15.8	79.7	0.0759	+12.2	+19.0	+17.5	76.4	0.0788	+13.0
Means.			86.36	0.0991	+21.19			83.46	0.0896	+15.90			82.68	0.0933	+16.67

Day.	MAY, 1872.														
	19.					20.					21.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+19.1	+17.5	75.0	0.0773	+12.6	+23.9	+22.3	78.5	0.1008	+18.5	+25.2	+23.4	77.1	0.1044	+19.3
1	19.0	17.5	76.4	.0788	13.0	24.0	22.7	82.7	.1066	19.7	25.8	24.0	77.4	.1078	20.0
2	19.0	17.6	77.8	.0803	13.6	22.8	21.7	84.8	.1035	19.2	25.5	24.6	88.5	.1219	22.7
3	21.1	19.8	80.8	.0916	16.5	25.0	23.7	83.2	.1121	20.9	26.6	25.0	80.4	.1158	21.6
4	19.8	18.4	78.4	.0839	14.6	25.1	23.9	84.5	.1143	21.3	26.3	21.6	79.7	.1183	22.0
5	21.7	20.0	75.5	.0880	15.6	27.0	25.9	86.7	.1272	23.7	27.5	25.7	78.7	.1177	21.8
6	22.0	20.7	81.6	.0967	17.5	25.5	24.6	88.5	.1219	22.7	28.9	27.1	79.5	.1263	23.5
7	23.4	21.8	78.2	.0982	17.9	26.9	25.7	85.4	.1248	23.3	30.4	28.5	79.2	.1339	24.8
8	23.2	21.5	76.6	.0955	17.3	26.8	25.7	86.6	.1260	23.5	31.1	29.1	78.8	.1370	28.3
9	23.4	21.9	79.5	.1000	18.4	27.4	26.4	87.9	.1313	24.4	31.6	29.8	79.4	.1440	27.4
10	24.5	22.9	79.0	.1042	19.2	27.2	26.4	90.3	.1336	25.1	31.7	29.3	74.2	.1321	28.4
11	25.0	23.5	80.6	.1084	20.1	26.1	24.8	83.8	.1182	22.1	32.4	30.4	79.4	.1453	27.3
Noon.	25.0	23.5	80.6	.1084	20.1	26.7	25.2	81.7	.1182	22.0	31.4	29.5	79.8	.1408	25.9
1h	27.2	25.8	83.1	.1231	23.0	26.3	24.2	75.4	.1000	21.6	30.8	29.6	87.0	.1498	27.5
2	26.8	25.4	82.9	.1207	22.5	26.2	24.6	80.1	.1137	21.1	32.0	29.0	69.4	.1260	28.0
3	26.9	25.5	83.0	.1213	22.6	26.0	24.4	80.0	.1125	20.9	32.4	29.0	65.2	.1215	27.7
4	26.7	25.3	82.9	.1201	22.4	25.8	23.9	76.1	.1060	19.6	32.6	29.5	69.9	.1355	25.6
5	26.7	25.2	81.7	.1182	22.0	25.7	23.5	74.6	.0950	19.5	32.8	30.7	79.8	.1513	28.7
6	26.5	24.9	80.3	.1153	21.4	25.4	23.3	74.9	.0967	19.7	32.0	30.5	84.3	.1525	27.9
7	25.9	24.4	81.2	.1136	21.1	25.4	23.2	75.1	.0971	19.4	31.1	28.2	68.5	.1195	26.8
8	25.3	23.8	80.8	.1101	20.4	26.0	23.4	74.8	.0960	19.6	31.2	28.5	69.0	.1270	26.5
9	24.3	22.9	81.5	.1065	19.7	25.6	23.0	74.8	.0968	19.1	31.1	29.4	81.8	.1425	26.3
10	23.1	21.7	80.8	.1000	18.4	25.6	23.4	74.7	.0970	19.5	31.4	29.5	79.8	.1408	25.9
11	+23.9	+22.7	83.9	0.1077	+20.0	+25.2	+23.4	77.1	0.1044	+19.3	+29.9	+27.8	78.3	0.1299	+27.2
Means.			80.92	0.1028	+18.75			80.92	0.1102	+21.07			77.29	0.1309	+25.40

MAY 1872.

Day.	22.					23.					24.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	+29.7	+27.5	78.2	0.1300	+27.3	+28.2	+25.8	61.5	0.1012	+24.3	+25.5	+24.7	89.9	0.1236	+23.0
1	29.2	26.9	77.4	.1242	26.4	27.9	25.6	76.7	.1184	24.8	26.1	24.7	82.6	.1166	20.8
2	29.4	27.3	77.5	.1247	27.5	27.4	25.8	81.0	.1206	22.4	26.6	25.0	80.4	.1158	21.6
3	28.4	26.5	78.1	.1214	22.6	27.6	26.1	83.2	.1236	23.0	26.9	25.3	80.7	.1176	21.9
4	29.6	28.0	82.1	.1344	25.0	27.8	26.0	78.8	.1195	22.3	26.2	24.9	83.9	.1189	22.2
5	28.3	25.9	76.9	.1174	25.1	27.6	26.3	84.5	.1273	23.7	25.7	24.7	87.3	.1212	22.6
6	28.7	26.9	79.4	.1250	23.2	27.8	26.5	84.6	.1285	24.0	26.8	25.8	87.7	.1277	23.8
7	29.4	28.1	85.4	.1386	25.7	28.4	27.3	87.2	.1357	25.3	27.8	26.9	89.4	.1356	25.2
8	28.5	27.0	82.7	.1292	24.1	28.2	27.0	85.9	.1372	24.7	27.1	26.2	89.1	.1313	24.4
9	30.4	28.9	83.5	.1414	26.2	27.4	26.1	84.4	.1261	23.5	29.4	28.1	85.4	.1386	25.7
10	31.3	29.8	84.0	.1477	27.1	27.5	26.3	85.6	.1284	24.0	29.2	27.8	84.1	.1356	25.2
11	30.1	28.9	86.7	.1450	26.7	27.5	25.7	78.7	.1177	21.8	29.2	27.7	82.9	.1334	24.8
Noon.	30.4	29.5	90.2	.1526	28.0	26.5	25.2	84.0	.1207	22.7	29.4	27.8	82.0	.1330	24.7
1^h	29.4	28.2	86.3	.1404	26.0	26.2	24.5	87.9	.1120	20.7	28.9	27.8	87.3	.1389	25.8
2	30.1	28.4	81.3	.1357	25.2	26.5	24.8	79.2	.1137	21.0	29.7	28.3	84.4	.1388	25.8
3	30.1	28.3	80.1	.1338	24.8	25.8	24.4	82.4	.1148	20.4	30.3	29.0	85.7	.1446	26.7
4	30.0	28.0	78.2	.1300	27.2	26.4	25.0	82.7	.1183	22.1	29.6	28.7	92.1	.1495	27.5
5	30.0	27.4	67.6	.1132	25.7	26.6	25.2	82.8	.1195	22.3	29.4	28.5	89.8	.1458	27.0
6	30.1	28.9	86.7	.1450	26.7	26.9	25.4	81.8	.1194	22.2	28.2	27.5	91.8	.1418	26.2
7	29.4	27.3	77.6	.1243	26.0	27.4	26.5	89.3	.1331	24.7	27.9	27.0	89.4	.1362	25.3
8	28.4	26.4	76.9	.1174	25.1	27.1	26.3	90.2	.1330	25.0	28.2	27.2	88.3	.1362	25.3
9	29.4	26.8	72.5	.1186	25.4	27.1	26.3	90.2	.1330	25.0	28.1	27.2	89.4	.1374	25.5
10	29.8	27.4	72.9	.1192	25.7	26.9	26.3	92.7	.1354	25.1	28.1	27.3	90.6	.1393	25.8
11	+28.9	+26.3	71.5	0.1123	+24.5	+26.6	+25.9	91.4	0.1318	+24.5	+27.2	+26.5	91.6	0.1354	+25.2
Means.			79.74	0.1301	+25.72			84.40	0.1237	+23.31			86.91	0.1330	+24.67

MAY, 1872.

Day.	25.					26.					27.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	+27.2	+26.2	87.8	0.1301	+24.2	+22.8	+22.6	97.3	0.1244	+23.2	+22.7	+22.3	94.5	0.1149	+21.4
1	27.4	26.3	86.8	.1296	24.2	24.1	23.2	87.9	.1140	21.2	22.4	21.7	90.3	.1081	20.1
2	27.5	26.6	89.3	.1337	24.8	25.8	24.4	82.4	.1148	20.4	22.1	21.0	84.4	.1000	18.4
3	27.7	26.8	89.4	.1349	25.1	25.5	24.2	83.4	.1148	21.4	22.2	20.9	81.7	.0972	17.8
4	27.9	26.7	85.8	.1309	24.4	25.9	24.7	84.9	.1187	22.2	22.3	20.9	80.3	.0960	17.5
5	27.7	26.8	89.4	.1349	25.1	26.1	24.8	83.8	.1182	22.1	22.4	21.3	84.6	.1015	18.7
6	28.5	27.2	84.9	.1329	24.7	27.1	25.4	79.6	.1171	21.8	22.6	21.7	87.5	.1059	19.7
7	28.5	27.3	86.1	.1378	25.1	26.7	25.1	80.5	.1164	21.7	23.2	21.9	82.2	.1022	18.9
8	27.7	26.5	85.7	.1297	24.2	27.3	25.8	82.0	.1218	22.6	23.2	22.0	83.5	.1039	19.2
9	28.2	27.0	85.9	.1372	24.7	27.7	26.1	81.1	.1224	22.8	23.0	22.0	86.2	.1063	19.7
10	28.5	27.4	87.2	.1363	25.4	28.5	27.1	83.8	.1311	24.4	25.0	24.0	87.0	.1172	21.8
11	30.3	29.4	90.2	.1519	27.8	28.3	27.0	84.8	.1316	24.5	25.4	24.7	91.1	.1248	23.3
Noon.	31.8	30.0	81.0	.1455	26.8	28.2	27.4	90.6	.1399	25.9	23.9	23.5	94.7	.1214	22.7
1^h	30.2	29.5	92.3	.1550	28.3	29.2	28.4	90.8	.1463	27.0	25.8	24.5	83.7	.1164	21.7
2	28.7	28.0	91.9	.1449	26.7	28.8	28.0	90.7	.1437	26.5	24.5	23.2	82.9	.1093	20.3
3	28.9	27.8	87.3	.1389	25.8	29.1	28.7	95.5	.1530	28.0	24.5	23.5	86.8	.1145	21.3
4	28.9	27.7	86.2	.1386	25.5	28.6	28.0	93.0	.1460	26.9	24.3	23.8	93.4	.1244	22.8
5	28.9	28.0	89.6	.1425	26.3	28.4	27.7	91.8	.1430	26.4	23.5	22.2	82.3	.1030	19.2
6	27.4	26.5	89.3	.1331	24.7	26.6	25.5	86.5	.1248	23.3	23.3	22.0	82.2	.1028	19.0
7	27.8	26.7	87.0	.1320	24.6	26.1	25.1	87.4	.1235	23.1	23.4	22.3	85.0	.1067	19.9
8	27.6	26.7	89.4	.1343	25.0	26.1	25.1	87.4	.1235	23.1	22.8	21.7	84.8	.1035	19.2
9	26.6	25.7	88.9	.1283	24.0	24.7	23.8	88.3	.1178	21.9	22.7	21.7	86.1	.1047	19.4
10	25.9	25.0	88.7	.1241	23.1	24.2	23.4	89.3	.1162	21.6	22.5	21.6	87.4	.1054	19.6
11	+24.0	+23.3	90.7	0.1169	+21.8	+23.4	+22.7	90.5	0.1136	+21.2	+22.1	+21.3	88.7	0.1049	+19.6
Means.			87.95	0.1356	+25.10			83.47	0.1265	+23.05			85.89	0.1082	+20.05

Day.	MAY, 1872.														
	28.					29.					30.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	+22.3	+21.2	84.5	0.1010	+18.6	+20.6	+18.0	63.3	0.0694	+15.8	+20.6	+19.0	76.2	0.0843	+14.6
1	22.2	21.0	83.0	.0988	18.1	21.7	20.2	78.3	.0917	16.3	21.6	20.0	76.8	.0891	15.9
2	22.2	20.7	78.8	.0942	16.9	20.4	19.2	81.9	.0900	16.0	23.5	20.7	61.8	.0799	18.9
3	22.2	20.7	78.8	.0942	16.9	20.4	19.1	80.5	.0884	15.7	23.3	22.0	82.2	.1028	19.0
4	22.5	21.2	81.8	.0987	18.1	21.2	19.6	76.6	.0871	15.3	24.0	22.3	77.4	.0996	18.3
5	22.7	21.0	76.4	.0930	16.8	20.8	19.3	77.8	.0869	15.2	24.4	23.9	93.4	.1252	22.9
6	23.4	22.1	82.3	.1033	19.1	20.7	19.6	83.6	.0931	16.9	25.3	25.0	96.0	.1254	23.4
7	25.2	23.6	79.5	.1078	20.0	21.5	20.2	81.2	.0937	16.9	25.5	23.8	78.4	.1079	19.9
8	25.4	23.8	79.6	.1089	20.2	22.3	20.0	72.0	.0849	17.9	26.1	24.3	77.7	.1096	20.3
9	26.9	25.2	79.5	.1159	21.6	22.7	21.6	84.7	.1030	19.1	25.7	24.3	82.3	.1143	20.3
10	26.3	24.9	80.3	.1153	21.4	23.2	21.0	73.2	.0908	19.5	27.1	25.3	78.5	.1153	21.4
11	26.4	24.8	80.2	.1148	21.3	23.2	22.0	83.5	.1039	19.2	27.0	25.6	83.0	.1219	22.7
Noon.	26.7	25.3	82.9	.1201	22.4	23.5	22.0	79.6	.1005	18.5	26.8	25.7	86.6	.1260	23.5
1^h	27.0	25.8	85.4	.1254	23.4	24.6	23.0	79.1	.1047	19.4	26.6	25.1	81.6	.1176	21.9
2	26.4	25.0	82.7	.1183	22.1	26.1	24.9	85.0	.1200	22.4	26.5	25.2	84.0	.1207	22.5
3	26.9	25.6	84.2	.1231	23.0	25.6	24.2	82.2	.1137	20.1	25.8	24.6	84.8	.1181	22.2
4	26.5	25.1	82.8	.1189	22.2	24.6	23.2	81.6	.1081	20.1	25.1	23.8	83.2	.1126	21.0
5	24.8	23.2	79.3	.1055	19.6	24.3	22.8	80.2	.1048	19.3	24.4	23.1	82.9	.1088	20.2
6	24.1	22.1	73.8	.0950	20.7	23.3	21.8	79.5	.0995	18.3	23.9	22.4	80.0	.1025	18.9
7	22.7	21.8	87.5	.1064	19.8	23.2	22.0	83.5	.1039	19.2	23.4	22.0	80.9	.1016	18.7
8	22.0	20.3	75.8	.0895	15.9	22.6	21.0	77.7	.0942	17.1	23.2	21.6	78.1	.0972	17.7
9	21.4	19.8	78.6	.0901	18.5	22.7	21.4	81.9	.0997	18.3	23.1	21.2	74.0	.0917	16.4
10	22.7	20.4	72.1	.0853	28.6	22.1	20.4	75.9	.0900	16.0	22.7	20.8	73.7	.0896	15.8
11	+21.8	+20.0	74.2	0.0868	+15.3	+20.9	+19.3	76.5	.0858	+15.0	+22.1	+20.3	74.5	0.0883	+15.6
Means.			80.11	0.1046	+20.02			78.72	0.0962	+17.81			80.33	0.1063	+19.67

Day.	MAY, 1872.					JUNE, 1872.									
	31.					1.					2.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	+19.3	+18.0	79.6	0.0832	+14.3	+26.2	+25.0	85.0	0.1206	+22.5	+30.2	+29.0	86.7	0.1458	+26.8
1	20.7	19.2	77.8	.0864	15.1	25.4	24.3	85.9	.1178	21.9	30.3	29.1	86.8	.1461	26.9
2	22.1	20.5	77.3	.0916	16.4	26.1	24.5	80.1	.1131	21.0	31.0	29.3	81.7	.1418	26.2
3	22.8	21.4	80.6	.0985	18.0	26.5	24.9	80.3	.1153	21.4	31.0	29.3	81.7	.1418	26.2
4	23.4	22.0	80.9	.1016	18.7	27.1	25.7	83.1	.1225	22.9	31.4	29.7	81.9	.1446	26.6
5	24.4	23.1	82.9	.1088	20.2	26.8	25.5	84.2	.1225	22.9	31.7	30.0	82.1	.1466	27.0
6	24.7	23.3	81.7	.1087	20.2	27.0	25.8	85.4	.1254	23.4	31.4	29.8	83.0	.1465	26.9
7	25.7	24.2	81.1	.1124	20.9	26.9	25.7	85.3	.1248	23.3	33.1	30.5	75.2	.1400	25.9
8	25.8	24.6	84.8	.1181	22.1	28.5	27.2	84.9	.1329	24.7	33.5	31.3	80.0	.1510	27.0
9	25.3	23.9	82.1	.1119	20.8	29.1	27.9	86.3	.1389	25.7	33.6	31.7	80.9	.1564	28.5
10	25.1	23.8	83.3	.1131	21.1	28.7	27.4	85.0	.1342	25.0	33.6	32.4	87.7	.1668	30.1
11	25.6	24.4	84.7	.1170	21.8	28.9	27.8	87.3	.1389	25.8	33.9	31.9	79.2	.1540	28.8
Noon.	26.1	25.0	86.2	.1218	22.7	28.9	28.0	89.6	.1425	26.3	35.2	33.4	81.8	.1669	29.9
1^h	27.3	26.3	87.9	.1307	24.3	29.1	28.0	87.4	.1402	26.0	35.0	33.2	81.7	.1665	29.7
2	26.5	25.5	87.6	.1259	23.5	29.7	28.8	89.9	.1477	27.2	34.6	32.9	82.5	.1657	29.4
3	25.7	24.9	89.9	.1241	23.1	31.3	29.6	81.9	.1439	26.5	34.0	32.5	84.3	.1655	29.7
4	25.7	24.9	89.9	.1241	23.1	31.9	29.8	79.4	.1440	25.3	33.9	32.5	85.2	.1663	30.8
5	24.2	23.1	85.4	.1111	20.7	31.9	29.8	79.4	.1440	25.3	35.1	33.5	83.7	.1712	31.1
6	25.2	24.1	85.8	.1166	21.7	31.2	29.1	78.8	.1370	24.9	33.8	32.1	82.2	.1601	28.9
7	24.9	23.8	85.7	.1149	21.4	31.0	29.0	78.8	.1360	24.6	33.2	31.8	85.8	.1631	29.5
8	26.3	25.3	87.5	.1247	20.3	30.2	28.9	85.7	.1438	26.6	33.0	31.5	80.9	.15[illegible]1	28.3
9	25.0	23.8	84.4	.1137	21.2	29.8	28.7	87.7	.1447	26.7	33.4	31.8	83.9	.1605	29.2
10	25.2	23.8	82.0	.1114	20.7	30.0	28.7	85.7	.1426	26.4	34.0	32.2	81.3	.1595	28.6
11	+26.2	+24.8	82.6	0.1171	+21.9	+29.8	+28.5	85.6	0.1413	+26.2	+35.8	+32.8	70.4	0.1476	+28.4
Means.			83.82	0.1120	+20.72			83.44	0.1339	+24.69			85.27	0.1554	+28.4

Day.	JUNE, 1872.														
	3.					4.					5.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	+35.4	+32.4	70.1	0.1448	+27.4	+37.2	+34.0	69.4	0.1556	+29.7	+37.8	+33.5	60.0	0.1356	+28.5
1	38.0	34.7	68.9	.1587	30.9	35.9	31.9	67.1	.1497	26.0	37.6	33.3	59.8	.1342	28.4
2	35.6	33.6	70.9	.1532	29.7	37.2	33.5	61.9	.1439	28.5	38.1	33.4	56.5	.1302	28.8
3	38.4	35.5	72.6	.1698	32.9	38.5	31.7	65.1	.1517	29.7	38.5	35.0	67.7	.1580	29.6
4	37.8	34.9	72.5	.1650	32.2	39.3	35.2	63.0	.1523	29.4	38.8	35.2	67.1	.1583	29.3
5	37.2	34.4	73.1	.1623	29.7	39.8	36.0	65.1	.1621	30.8	40.0	35.8	62.8	.1558	30.7
6	36.0	33.6	76.2	.1616	31.0	40.6	35.9	60.3	.1496	29.8	35.6	32.0	64.5	.1347	26.3
7	35.3	32.6	73.0	.1506	28.5	40.0	35.8	62.7	.1550	30.7	36.4	32.9	66.0	.1423	27.5
8	35.8	33.0	72.3	.1521	28.3	40.7	36.8	65.9	.1654	32.2	39.0	33.8	53.1	.1260	27.4
9	36.4	33.1	67.9	.1458	28.1	40.8	36.7	64.3	.1643	32.1	39.5	34.5	55.5	.1351	28.5
10	39.6	34.8	56.9	.1395	28.4	41.1	36.8	62.7	.1625	32.0	40.6	35.6	56.3	.1438	29.7
11	38.6	34.3	60.6	.1425	28.5	40.9	35.2	59.1	.1520	30.6	39.8	34.9	56.2	.1390	28.6
Noon.	39.0	34.7	61.0	.1457	29.8	41.0	36.5	60.9	.1575	30.8	38.2	33.6	57.5	.1328	27.4
1^h	37.5	34.5	71.6	.1610	30.8	41.0	36.4	68.0	.1683	30.7	38.7	33.5	52.8	.1239	29.7
2	37.7	34.8	72.5	.1612	30.6	42.0	36.9	57.0	.1529	30.9	39.4	34.3	54.3	.1321	27.2
3	36.5	33.2	67.9	.1465	28.8	40.7	35.4	53.0	.1383	28.5	40.8	36.8	65.1	.1664	32.0
4	36.7	33.4	68.1	.1479	28.6	39.6	35.0	58.8	.1413	28.6	42.0	35.3	44.4	.1188	26.4
5	36.3	33.7	74.5	.1602	28.4	39.8	35.9	65.2	.1600	30.8	38.2	34.8	68.6	.1582	30.9
6	36.5	34.3	78.6	.1690	31.0	39.0	35.1	64.6	.1536	29.7	39.7	36.7	73.0	.1756	33.1
7	37.7	33.4	59.9	.1349	27.3	43.0	37.1	51.8	.1417	29.8	38.0	33.4	57.3	.1315	26.2
8	38.5	33.4	53.4	.1245	26.1	36.0	34.0	80.2	.1700	31.0	37.7	33.5	56.6	.1309	28.5
9	38.3	33.8	58.5	.1366	27.4	39.7	35.5	62.5	.1534	30.8	36.7	33.1	65.4	.1424	27.3
10	39.9	35.1	57.3	.1419	28.5	36.2	33.7	75.4	.1616	29.7	36.0	32.5	65.7	.1395	26.0
11	+38.8	+34.0	56.2	0.1331	+27.6	+39.0	+34.7	61.1	0.1457	+29.5	+36.8	+32.4	57.8	0.1266	+25.8
Means.			66.85	0.1505	+29.19			59.96	0.1548	+30.10			60.16	0.1322	+28.4

Day.	JUNE, 1872.														
	6.					7.					8.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	+37.7	+33.4	59.6	0.1349	+27.3	+38.5	+35.8	75.1	0.1748	+32.0	+38.5	+35.8	75.0	0.1748	+32.0
1	36.7	32.6	60.8	.1319	27.1	36.2	31.0	78.4	.1674	29.7	43.5	41.1	80.1	.2268	39.6
2	38.3	33.7	57.6	.1336	27.4	39.4	36.5	73.5	.1783	33.1	39.6	37.1	77.4	.1889	33.1
3	39.9	36.0	61.3	.1608	30.8	38.9	36.5	78.2	.1853	34.0	38.5	36.0	76.8	.1790	32.0
4	40.7	36.8	65.9	.1672	32.0	36.7	34.8	81.6	.1772	32.2	39.1	36.3	74.6	.1778	32.1
5	41.7	36.3	54.5	.1442	29.7	35.6	33.8	82.1	.1715	31.0	39.0	36.0	72.6	.1730	32.0
6	43.7	37.5	50.4	.1439	30.9	37.8	35.8	81.0	.1844	33.3	37.1	34.9	78.5	.1746	32.2
7	44.8	40.2	63.6	.1897	34.2	40.9	37.8	72.7	.1869	34.2	36.8	34.4	76.8	.1680	29.7
8	44.7	39.8	61.2	.1818	34.1	39.6	37.8	83.5	.2043	35.4	38.3	35.4	73.2	.1698	30.9
9	43.5	38.1	56.4	.1597	32.1	44.7	40.1	63.5	.1887	34.6	39.7	36.6	72.2	.1765	33.1
10	43.6	38.7	60.2	.1711	33.0	46.1	41.1	61.8	.1930	35.3	39.7	36.2	68.6	.1676	30.8
11	44.1	39.0	59.1	.1717	33.2	44.6	39.8	61.8	.1480	34.5	37.9	35.0	72.0	.1642	30.9
Noon.	40.1	36.5	68.1	.1692	32.0	42.5	38.4	65.7	.1793	33.3	37.9	34.6	69.2	.1555	30.7
1^h	40.3	36.7	68.2	.1710	32.1	43.2	39.1	66.2	.1857	34.2	38.5	35.5	72.3	.1690	31.8
2	41.0	36.9	64.4	.1659	32.0	41.9	38.5	70.9	.1893	35.6	40.0	36.5	68.9	.1675	32.0
3	41.7	37.9	67.4	.1792	33.1	41.8	38.8	74.3	.1972	35.4	39.5	36.1	69.4	.1686	31.8
4	40.6	37.5	72.7	.1842	34.0	41.9	39.0	78.1	.2008	35.3	38.2	35.6	75.8	.1745	31.9
5	40.7	37.2	69.3	.1768	32.1	38.7	36.2	76.9	.1808	32.0	38.6	36.0	76.0	.1777	31.7
6	38.6	36.0	76.0	.1777	32.0	38.9	36.4	77.0	.1826	32.1	37.6	34.6	71.6	.1618	30.8
7	38.9	36.5	78.2	.1853	33.1	38.7	36.4	78.7	.1854	32.3	37.7	35.1	75.5	.1705	28.7
8	39.9	37.0	73.6	.1828	33.0	41.2	38.0	73.6	.1874	34.2	36.5	34.5	80.5	.1740	32.4
9	40.5	37.3	71.8	.1811	33.2	40.7	37.4	71.0	.1807	33.9	37.3	34.7	76.9	.1903	31.2
10	36.9	35.2	83.6	.1830	32.2	38.5	35.7	74.4	.1727	32.0	36.0	33.8	79.2	.1668	30.8
11	+36.3	+34.8	85.2	0.1824	+32.3	+36.7	+34.8	81.6	0.1772	+32.4	+35.7	+33.9	84.0	0.1723	+31.1
Means.			66.22	0.1679	+31.79			74.23	0.1823	+33.42			74.88	0.1746	+31.8

JUNE, 1872.

Day.	9.					10.					11.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+36.3	+34.5	84.2	0.1761	+32.2	+37.0	+33.0	61.9	0.1360	+27.3	+32.1	+30.3	81.3	0.1476	+27.1
1	35.7	33.2	75.1	.1576	28.5	35.1	32.0	68.9	.1407	27.2	31.4	30.0	85.1	.1502	27.6
2	33.9	31.4	74.2	.1450	25.7	37.9	34.3	66.3	.1511	28.5	30.7	30.0	92.4	.1584	28.8
3	36.4	33.2	69.8	.1478	28.5	37.7	35.0	74.5	.1684	30.9	31.8	30.6	87.3	.1567	28.6
4	36.0	33.3	74.4	.1556	28.3	40.4	36.0	61.3	.1522	30.8	32.7	31.9	91.7	.1710	30.6
5	34.7	32.2	74.5	.1504	27.2	38.5	35.4	71.4	.1669	30.9	32.8	32.0	91.7	.1717	30.7
6	36.7	33.6	70.0	.1519	29.7	41.9	36.4	53.8	.1436	28.6	32.0	31.2	91.5	.1658	29.9
7	39.7	36.1	67.8	.1653	30.8	39.9	35.0	56.5	.1398	28.5	31.7	30.9	91.4	.1635	29.6
8	36.0	33.4	74.2	.1579	28.5	41.0	36.0	56.7	.1470	28.6	32.1	30.2	81.2	.1469	27.0
9	35.0	32.7	79.2	.1637	29.8	41.2	36.3	57.7	.1505	28.5	32.4	30.3	79.3	.1439	26.0
10	34.2	32.1	78.4	.1544	29.6	41.1	36.3	58.5	.1518	28.3	33.1	31.0	80.0	.1510	27.1
11	35.3	33.1	78.8	.1602	29.8	41.5	36.2	54.9	.1447	29.7	32.4	30.4	79.4	.1475	25.9
Noon.	34.6	32.6	79.5	.1592	29.5	42.0	37.2	59.4	.1597	30.9	32.8	31.2	83.7	.1564	28.6
1h	35.6	33.5	70.0	.1647	29.7	37.8	34.6	69.9	.1592	30.8	32.8	31.1	82.6	.1546	28.3
2	35.5	33.0	75.0	.1560	28.7	38.3	33.8	58.5	.1356	27.4	32.6	30.7	80.5	.1493	27.3
3	34.6	32.4	78.9	.1552	28.5	35.2	33.4	83.7	.1679	29.7	32.9	31.0	80.6	.1515	27.8
4	36.1	32.5	64.9	.1382	26.0	34.9	32.5	75.6	.1533	29.8	33.4	31.5	80.9	.1550	28.3
5	35.9	32.7	69.4	.1423	28.5	34.3	32.0	76.3	.1511	28.6	33.0	31.4	83.7	.1578	28.8
6	35.6	32.2	69.0	.1382	28.3	34.8	32.5	76.6	.1546	28.8	32.9	31.4	84.6	.1586	28.9
7	35.8	32.2	56.2	.1231	24.9	33.8	32.0	81.2	.1581	27.2	32.7	30.9	81.6	.1519	27.7
8	36.7	32.2	57.0	.1244	24.7	33.3	31.6	82.8	.1581	28.8	32.7	30.5	79.7	.1450	25.9
9	36.2	34.0	78.4	.1674	31.0	32.7	30.9	81.6	.1519	27.7	32.1	30.4	82.3	.1494	27.4
10	36.3	35.0	87.3	.1871	33.3	32.4	30.5	80.4	.1479	27.1	31.6	29.9	82.0	.1460	26.8
11	+37.2	+32.3	53.9	0.1199	+27.2	+32.5	+30.7	81.5	.1504	+27.5	+31.4	+29.0	74.2	0.1302	+26.7
Means.			72.50	0.1526	+28.70			68.74	0.1517	+28.84			83.69	0.1533	+27.9

JUNE 1872.

Day.	12.					13.					14.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+31.9	+29.8	74.5	0.1370	+25.5	+31.3	+28.9	73.9	0.1300	+24.6	+33.1	+30.0	70.4	0.1328	+24.2
1	30.7	28.8	79.4	.1350	25.1	31.8	29.7	79.2	.1432	24.0	33.4	30.1	70.9	.1314	24.5
2	30.5	28.3	78.5	.1325	21.9	32.3	30.1	79.6	.1463	25.3	32.9	29.8	70.2	.1297	24.7
3	30.9	29.0	79.4	.1373	25.4	33.3	31.4	80.8	.1543	28.2	32.4	29.8	74.6	.1365	24.5
4	32.0	30.0	79.4	.1440	25.4	34.4	32.1	76.4	.1518	28.5	32.3	29.8	74.7	.1374	24.4
5	32.2	30.2	79.6	.1452	25.3	34.3	32.0	76.3	.1511	28.2	33.5	30.6	74.5	.1350	24.1
6	32.6	30.7	80.5	.1493	27.3	33.7	32.0	82.3	.1594	28.9	35.8	32.5	67.5	.1416	27.1
7	33.0	31.0	80.0	.1510	27.0	35.7	32.8	71.9	.1494	28.2	34.4	31.3	71.3	.1402	25.4
8	34.4	32.2	78.4	.1538	28.5	37.7	33.6	61.6	.1395	27.5	34.1	30.9	71.2	.1392	25.2
9	34.1	32.0	78.3	.1537	28.7	37.7	34.3	68.0	.1542	29.9	35.1	31.0	62.7	.1282	24.9
10	33.7	30.6	71.1	.1330	25.7	38.7	34.7	63.4	.1496	29.7	36.7	32.0	55.2	.1204	24.8
11	33.3	30.3	70.6	.1312	24.0	37.7	34.1	66.2	.1495	27.9	38.3	33.7	57.5	.1316	27.5
Noon.	32.6	30.5	79.7	.1460	27.2	36.0	33.9	79.2	.1679	31.0	38.2	34.0	61.6	.1414	31.0
1h	32.7	30.3	74.9	.1384	27.5	35.5	33.5	80.0	.1660	29.9	38.5	34.7	65.0	.1517	29.9
2	32.5	30.1	74.7	.1381	27.4	35.2	33.0	77.8	.1594	29.8	39.7	35.0	58.2	.1424	29.8
3	32.6	30.5	79.8	.1462	27.3	34.5	30.9	66.8	.1340	22.9	38.2	34.4	64.7	.1493	28.5
4	32.7	30.7	79.9	.1472	27.8	33.6	31.0	75.7	.1463	25.9	38.1	35.0	71.1	.1637	30.8
5	33.5	30.2	70.6	.1334	24.0	33.5	31.2	80.3	.1522	25.2	36.9	34.1	73.4	.1599	29.7
6	32.7	30.8	80.5	.1499	27.4	33.7	31.4	80.4	.1427	25.5	35.6	33.1	75.1	.1567	28.5
7	31.8	29.8	79.3	.1423	25.4	33.1	29.8	65.8	.1262	24.1	35.0	33.2	81.6	.1665	29.8
8	30.8	28.6	78.6	.1319	23.1	33.1	29.8	65.8	.1262	24.0	34.2	32.4	81.3	.1609	28.8
9	31.5	29.0	74.0	.1310	23.0	32.3	30.5	74.9	.1394	24.1	35.3	32.6	72.9	.1506	27.7
10	31.5	29.2	79.2	.1380	24.3	32.7	29.9	74.6	.1379	24.0	34.0	32.5	84.3	.1655	29.8
11	+31.7	+29.5	74.7	0.1401	+24.9	+33.5	+30.1	65.8	0.1282	+23.9	+34.6	+32.1	74.5	0.1497	+27.8
Means.			77.31	0.1329	+25.80			73.61	0.1460	+26.72			70.15	0.1452	+27.23

Day.	JUNE, 1872.														
	15.					16.					17.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+33.6	+32.1	84.1	0.1627	+28.5	+42.5	+35.7	44.2	0.1194	+28.5	+35.7	+32.8	71.2	0.1494	+28.4
1	35.7	31.0	58.9	.1212	23.5	43.1	36.1	43.4	.1218	27.5	35.7	32.8	71.2	.1494	28.4
2	33.8	32.2	83.3	.1621	30.0	42.7	35.3	39.8	.1102	26.4	38.7	35.0	66.1	.1554	29.8
3	34.0	33.1	89.1	.1775	31.9	43.1	55.7	40.7	.1134	27.6	35.7	33.2	75.1	.1574	28.5
4	34.1	32.7	83.9	.1677	31.2	43.6	36.1	40.3	.1149	26.8	36.6	34.2	76.6	.1664	29.7
5	33.7	32.4	85.1	.1689	30.9	44.5	37.0	41.6	.1230	27.9	38.5	35.4	71.3	.1669	30.9
6	34.5	32.7	81.4	.1630	29.8	35.4	33.0	76.8	.1573	28.4	39.7	36.0	68.7	.1634	30.8
7	34.4	32.6	81.3	.1623	29.6	35.6	33.1	75.1	.1567	28.2	37.4	33.4	62.3	.1392	27.3
8	34.6	32.8	81.5	.1637	29.7	36.4	34.0	76.5	.1643	29.7	38.7	35.2	67.9	.1596	29.7
9	34.4	32.6	81.3	.1623	29.6	37.8	32.7	52.6	.1196	26.3	35.9	33.2	73.3	.1548	28.5
10	34.0	33.1	89.1	.1775	31.2	37.8	33.0	55.3	.1251	26.1	34.5	32.0	74.4	.1490	27.2
11	36.6	34.0	74.7	.1617	29.7	37.7	32.9	55.2	.1254	25.9	33.7	31.7	80.3	.1542	28.5
Noon.	37.5	34.9	75.2	.1689	30.9	37.6	33.0	56.9	.1277	26.2	32.7	31.3	85.7	.1594	28.9
1h	37.7	35.8	81.9	.1852	33.3	37.5	32.7	55.0	.1240	26.1	33.9	31.3	75.9	.1459	25.9
2	38.3	36.6	84.0	.1948	34.3	37.8	33.3	58.0	.1321	26.0	33.3	31.5	81.9	.1563	28.4
3	36.8	35.0	82.5	.1801	32.2	38.1	33.9	61.0	.1406	28.5	32.8	31.2	83.7	.1564	28.6
4	36.0	34.4	84.2	.1779	31.0	38.2	33.8	59.2	.1372	28.3	32.9	31.1	81.7	.1535	28.0
5	34.8	33.0	81.6	.1651	31.2	38.9	33.9	54.6	.1302	28.0	32.7	31.0	82.6	.1538	28.1
6	35.5	32.0	74.4	.1490	27.2	39.6	34.5	54.5	.1337	28.2	32.2	30.8	85.5	.1558	28.4
7	33.2	31.6	83.8	.1592	29.0	37.9	33.8	61.8	.1411	28.5	31.5	29.9	83.0	.1472	27.0
8	33.0	31.7	86.7	.1636	29.6	37.7	33.5	60.7	.1374	27.3	31.8	30.0	81.0	.1455	26.8
9	33.0	31.5	84.7	.1594	29.0	37.1	33.3	64.7	.1412	27.5	31.4	29.7	81.9	.1446	26.6
10	41.6	36.2	54.3	.1434	29.7	37.5	34.5	71.6	.1610	29.7	30.8	29.1	81.6	.1404	26.0
11	+42.7	+36.2	46.8	0.1288	+28.6	+36.3	+33.0	67.9	0.1451	+28.9	+30.7	+29.0	81.5	0.1397	+25.9
Means.			78.91	0.1636	+30.03			56.98	0.1334	+28.02			76.86	0.1526	+28.18

Day.	JUNE, 1872.														
	18.					19.					20.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+30.5	+28.9	82.5	0.1407	+26.0	+32.6	+31.0	83.6	0.1550	+28.3	+35.7	+32.7	70.3	0.1469	+28.4
1	30.6	29.0	82.6	.1409	26.1	32.5	30.7	81.5	.1504	27.5	35.0	32.0	69.8	.1420	27.2
2	30.6	29.0	82.6	.1409	26.1	32.0	30.4	83.3	.1506	27.6	35.7	32.2	65.3	.1374	26.6
3	30.6	29.0	82.6	.1409	26.1	31.9	30.3	83.2	.1499	27.5	35.3	31.9	65.4	.1362	26.5
4	30.4	28.9	83.5	.1414	26.2	32.2	30.3	80.3	.1465	26.9	34.8	31.8	71.6	.1440	26.7
5	30.3	28.9	84.7	.1441	26.6	32.3	30.5	81.4	.1490	27.3	35.2	32.6	73.8	.1519	28.5
6	30.8	29.3	83.8	.1442	26.6	32.4	30.6	81.4	.1497	27.4	36.0	32.6	66.6	.1410	28.0
7	31.7	30.2	84.2	.1504	27.6	32.5	30.6	80.4	.1486	27.2	36.7	32.6	60.7	.1319	27.6
8	32.4	30.9	84.5	.1554	28.3	32.7	31.0	82.6	.1538	28.1	37.3	32.6	55.7	.1246	25.2
9	33.3	31.9	85.8	.1638	29.6	34.6	31.8	71.0	.1389	27.2	38.9	33.7	52.9	.1260	27.6
10	34.7	32.7	79.6	.1599	29.8	34.1	32.0	79.1	.1537	30.0	40.6	34.7	57.8	.1244	27.8
11	33.2	31.0	79.2	.1520	27.9	33.6	31.6	81.2	.1523	29.9	43.7	37.8	52.6	.1502	31.2
Noon.	37.1	34.1	71.3	.1578	29.2	34.0	32.0	79.2	.1550	28.5	42.9	38.6	64.3	.1785	29.9
1h	36.2	32.7	65.9	.1409	28.0	34.7	32.0	72.6	.1464	27.8	40.6	37.0	68.4	.1737	32.0
2	34.7	32.2	74.5	.1504	27.2	34.8	32.0	71.6	.1451	27.9	40.2	37.2	73.3	.1828	33.3
3	36.3	34.9	86.1	.1850	30.8	35.7	34.0	83.0	.1734	31.3	40.1	37.1	73.2	.1819	33.2
4	34.5	32.2	76.4	.1538	28.6	37.2	35.3	81.7	.1812	32.6	39.7	37.0	75.7	.1854	33.0
5	34.7	32.9	81.5	.1644	29.9	37.5	35.3	79.0	.1778	32.9	42.4	36.5	51.2	.1393	28.9
6	34.3	32.8	84.4	.1676	29.7	36.6	34.5	79.5	.1727	31.8	41.5	36.0	53.4	.1400	29.1
7	33.5	32.0	84.1	.1620	28.6	36.2	33.9	77.3	.1653	31.0	40.6	35.0	51.6	.1307	27.6
8	33.7	32.0	83.9	.1594	28.3	35.2	32.5	72.9	.1499	28.5	40.2	34.7	52.0	.1296	27.9
9	33.4	31.8	83.9	.1606	29.2	35.8	34.3	85.0	.1784	31.1	39.8	34.5	53.1	.1301	28.1
10	32.7	31.0	82.6	.1538	28.1	35.0	32.5	74.7	.1525	27.2	38.6	34.0	57.8	.1357	27.3
11	+32.5	+31.0	84.5	0.1562	+28.5	+34.7	+32.1	73.6	0.1484	+27.0	+35.8	+32.1	64.0	0.1341	+25.8
Means.			81.03	0.1536	+28.04			79.13	0.1573	+28.85			62.52	0.1458	+28.64

JUNE, 1872.

Day.	21.					22.					23.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+37.4	+33.2	60.4	0.1350	+27.2	+34.4	+31.7	69.8	0.1420	+27.2	+36.2	+33.3	71.0	0.1530	+28.6
1	34.4	31.1	71.3	.1372	25.8	......	......	......	......	......	34.6	32.1	74.4	.1497	27.2
2	35.5	31.7	66.8	.1345	26.1	......	......	......	......	......	33.8	31.4	75.5	.1442	24.9
3	32.7	29.6	70.2	.1327	24.2	......	......	......	......	......	35.0	32.8	77.7	.1580	29.7
4	32.7	30.3	74.7	.1389	24.5	......	......	......	......	......	40.5	36.4	64.0	.1619	30.9
5	33.7	30.6	70.2	.1324	26.8	......	......	......	......	......	38.1	35.0	71.9	.1637	30.8
6	33.7	32.6	88.0	.1709	30.1	......	......	......	......	......	36.7	33.6	70.0	.1525	29.7
7	31.7	29.2	74.2	.1317	24.1	......	......	......	......	......	37.4	34.8	75.2	.1681	30.7
8	32.0	29.6	64.8	.1209	24.0	......	......	......	......	......	38.5	36.6	82.2	.1922	35.1
9	32.8	30.8	79.9	.1508	27.0	......	......	......	......	......	40.8	37.7	72.8	.1860	33.8
10	32.7	31.2	83.2	.1368	25.4	......	......	......	......	......	36.9	34.2	74.0	.1620	29.7
11	33.3	32.4	89.0	.1726	30.1	......	......	......	......	......	38.1	35.3	73.8	.1695	32.2
Noon.	34.1	32.4	82.3	.1622	28.9	......	......	......	......	......	36.1	33.5	74.4	.1582	28.4
1h	34.7	32.2	74.5	.1504	28.0	......	......	......	......	......	34.2	31.8	74.6	.1510	28.6
2	33.5	32.0	84.1	.1620	28.4	......	......	......	......	......	34.6	31.9	73.0	.1500	27.5
3	33.4	31.0	75.5	.1448	27.3	......	......	......	......	......	33.3	31.4	78.2	.1492	25.8
4	32.8	30.0	70.1	.1332	24.3	......	......	......	......	......	34.1	31.9	79.1	.1332	24.7
5	32.7	30.4	79.5	.1442	25.2	......	......	......	......	......	35.0	32.8	77.7	.1580	29.9
6	34.4	31.7	69.8	.1420	27.2	......	......	......	......	......	34.7	32.0	72.6	.1464	27.3
7	34.4	31.7	69.8	.1420	27.2	......	......	......	......	......	33.9	31.9	80.1	.1482	27.5
8	34.4	31.7	69.8	.1420	27.2	......	......	......	......	......	34.2	31.7	76.1	.1463	27.1
9	34.4	31.7	69.8	.1420	27.2	......	......	......	......	......	36.5	34.0	75.6	.1630	29.8
10	34.4	31.7	69.8	.1420	27.2	......	......	......	......	......	45.1	41.2	69.2	.2078	36.4
11	+34.4	+31.7	69.8	0.1420	+27.2	+36.2	+33.0	68.7	0.1464	+28.4	+44.3	+41.0	73.4	0.2141	+37.5
Means.			74.06	0.1434	+26.79			69.75	0.1422	+27.25			74.44	0.1619	+29.74

JUNE, 1872.

Day.	24.					25.					26.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+43.7	+39.8	68.2	0.1948	+35.2	+38.3	+35.0	69.4	0.1621	+30.8	+46.2	+42.5	71.5	0.2239	+37.8
1	41.7	37.4	63.3	.1677	35.6	36.7	33.8	71.9	.1564	29.2	48.0	43.8	68.9	.2312	39.9
2	46.1	42.2	69.9	.2180	37.4	37.0	33.8	69.3	.1528	29.8	46.7	42.2	65.8	.2102	36.0
3	48.6	42.0	52.8	.1807	34.4	37.5	34.5	71.6	.1610	30.9	48.1	41.8	54.3	.1831	35.6
4	41.8	35.6	47.5	.1282	26.4	37.8	34.7	70.7	.1612	30.7	47.2	41.8	59.7	.1948	36.2
5	40.5	35.2	53.9	.1367	27.4	37.9	34.7	69.8	.1599	30.8	45.1	40.6	64.6	.1944	35.9
6	41.2	35.0	47.4	.1244	26.8	38.5	35.1	68.6	.1606	29.9	44.2	38.6	55.5	.1611	32.2
7	40.1	34.8	53.4	.1335	28.4	39.0	35.4	67.2	.1599	29.8	38.7	35.0	66.1	.1554	29.7
8	39.8	34.4	52.3	.1290	26.8	39.8	36.1	68.4	.1643	30.9	37.2	33.7	66.7	.1479	28.5
9	38.7	34.0	57.0	.1344	26.3	41.3	37.0	63.0	.1641	32.3	36.7	33.3	67.2	.1462	30.9
10	38.7	34.7	63.4	.1496	29.8	40.0	36.0	64.5	.1600	30.8	38.0	35.4	75.0	.1729	30.7
11	38.8	34.7	62.6	.1483	29.7	41.0	36.0	56.7	.1470	29.7	37.5	34.3	69.7	.1568	29.7
Noon.	39.7	35.0	58.0	.1424	27.4	42.4	37.8	61.4	.1671	32.2	37.7	34.6	70.8	.1605	30.8
1h	38.7	35.5	70.6	.1664	30.8	41.9	38.2	68.5	.1822	33.0	34.9	32.3	74.4	.1490	29.4
2	39.4	35.0	60.3	.1468	29.2	41.6	37.3	63.2	.1668	32.1	34.9	32.3	74.4	.1490	29.4
3	39.7	35.4	61.5	.1513	29.6	41.7	37.0	60.7	.1594	31.2	34.9	32.3	74.4	.1490	29.4
4	38.8	34.9	64.3	.1520	29.4	41.9	36.9	57.6	.1542	31.1	34.9	32.3	74.4	.1490	29.4
5	39.1	35.1	63.7	.1528	29.5	41.1	37.2	66.4	.1714	32.1	34.9	32.3	74.4	.1490	29.4
6	38.7	34.9	64.4	.1533	29.2	40.8	36.5	62.5	.1601	31.7	34.9	32.3	74.4	.1490	29.4
7	38.1	35.6	76.6	.1758	32.0	41.3	36.3	57.0	.1494	29.9	34.9	32.3	74.4	.1490	29.4
8	38.3	35.7	75.8	.1753	32.2	41.1	36.8	62.7	.1625	32.3	34.9	32.3	74.4	.1400	29.4
9	38.7	35.2	67.9	.1596	29.8	42.2	37.3	59.5	.1592	32.2	34.9	32.3	74.4	.1490	29.4
10	37.2	33.3	63.0	.1399	27.6	45.3	39.6	55.8	.1694	33.1	34.9	32.3	74.4	.1490	29.4
11	+37.6	+34.4	70.1	0.1576	+29.8	+49.3	+43.2	56.8	0.1988	+36.7	+34.9	+32.3	74.4	0.1490	+29.4
Means.			61.99	0.1549	+30.03			64.30	0.1621	+31.39			69.76	0.1657	+31.55

Day.	JUNE, 1872.														
	27.					28.					29.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+32.0	+30.0	79.4	0.1440	+25.4	+36.0	+32.8	68.6	0.1450	+28.4	+35.7	+32.9	72.1	0.1514	+28.4
1	31.6	29.8	80.9	.1441	26.5	34.7	32.0	72.6	.1464	28.2	40.5	37.6	74.3	.1876	34.2
2	32.3	30.1	79.3	.1439	25.2	36.6	33.3	68.1	.1475	28.5	34.2	31.6	75.7	.1461	27.4
3	31.5	29.8	84.2	.1501	26.4	37.0	33.7	68.4	.1507	29.3	33.9	31.4	75.6	.1452	25.7
4	31.5	29.8	84.2	.1501	26.4	37.5	33.8	65.0	.1460	28.5	34.3	31.8	75.9	.1481	27.3
5	30.7	29.4	85.9	.1487	27.4	39.0	35.0	63.6	.1520	33.0	34.6	32.0	73.5	.1477	27.1
6	30.3	29.2	89.0	.1490	27.4	44.2	39.0	58.4	.1704	33.1	33.4	31.2	75.4	.1492	27.0
7	30.3	29.2	89.0	.1490	27.4	43.4	38.2	57.6	.1632	32.2	33.4	31.0	75.6	.1480	27.5
8	29.9	29.0	90.0	.1491	27.4	42.0	38.2	67.7	.1809	33.0	32.8	31.1	82.6	.1546	28.3
9	33.7	29.9	61.8	.1212	24.1	41.1	37.6	69.4	.1798	33.2	34.7	32.3	75.5	.1519	28.4
10	38.9	35.1	65.3	.1549	29.9	39.6	36.7	64.8	.1801	33.1	31.8	30.4	85.3	.1530	28.0
11	38.7	34.8	64.2	.1494	29.8	38.4	35.0	68.5	.1598	30.8	35.1	33.0	78.8	.1607	29.7
Noon.	38.1	34.3	64.6	.1485	33.2	37.8	35.0	73.6	.1671	30.6	34.7	33.0	83.6	.1664	29.6
1h	40.1	35.9	62.8	.1566	30.9	36.8	34.9	81.5	.1780	32.0	40.3	37.0	70.8	.1771	33.1
2	37.0	35.8	88.3	.1948	34.2	34.9	32.6	76.6	.1563	28.9	38.9	36.0	73.4	.1738	32.8
3	39.2	35.1	62.9	.1515	31.0	34.5	32.5	79.5	.1585	28.5	37.9	35.0	72.8	.1658	30.8
4	36.1	33.0	69.6	.1477	28.7	33.7	31.8	81.0	.1572	28.6	38.3	35.6	74.8	.1732	32.6
5	36.2	33.0	68.7	.1464	28.6	33.8	32.0	81.2	.1581	28.3	40.2	37.2	73.3	.1828	33.1
6	36.9	33.9	71.1	.1562	29.8	35.7	33.5	78.0	.1634	31.9	39.7	36.9	74.7	.1832	33.0
7	35.7	32.8	71.2	.1501	28.7	33.9	31.8	80.1	.1523	28.8	37.4	35.2	79.0	.1770	32.3
8	35.0	32.1	70.8	.1445	27.4	35.0	32.5	74.7	.1525	28.9	38.8	35.3	77.0	.1817	32.0
9	35.5	32.2	67.2	.1395	27.6	36.2	33.4	72.5	.1549	28.4	44.5	40.1	64.8	.1908	35.3
10	36.0	32.8	68.6	.1450	27.5	31.7	31.0	92.6	.1655	29.9	44.7	41.9	77.5	.2291	39.6
11	+34.7	+32.0	72.6	.1464	+27.2	+37.2	+34.6	74.7	0.1665	+31.1	+45.7	+42.0	71.2	0.2184	+37.4
Means.			74.65	0.1492	+28.25			72.44	0.1605	+30.30			75.55	0.1693	+30.86

Day.	JUNE, 1872.					JULY, 1872.									
	30.					1.					2.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+36.7	+34.1	73.9	0.1625	+29.8	+47.9	+40.7	47.9	0.1604	+32.7	+38.3	+35.6	74.9	0.1732	+32.0
1	35.5	33.6	80.9	.1689	31.2	48.7	40.7	43.5	.1500	32.5	35.7	33.2	75.1	.1574	28.5
2	43.6	40.9	77.8	.2205	37.7	47.3	39.0	39.6	.1301	29.6	35.2	32.6	73.8	.1519	27.7
3	43.4	40.3	74.4	.2097	36.5	48.7	42.0	52.2	.1794	31.4	35.5	32.7	72.1	.1500	27.9
4	44.6	39.7	61.0	.1808	34.3	47.3	40.4	49.3	.1640	32.2	35.4	32.7	73.0	.1513	27.8
5	47.7	43.7	70.2	.2327	39.8	48.3	41.0	47.7	.1621	33.3	36.7	33.7	71.7	.1546	29.7
6	51.2	44.7	55.9	.2107	38.1	46.5	40.0	51.3	.1630	32.8	37.9	34.8	70.9	.1621	30.9
7	48.5	40.7	44.5	.1521	32.4	46.0	39.3	49.3	.1574	31.0	37.6	34.3	68.8	.1555	29.6
8	48.4	41.0	47.2	.1608	33.2	48.5	41.0	46.6	.1590	32.4	37.2	34.2	71.3	.1586	29.5
9	48.5	40.7	44.5	.1521	32.4	49.5	41.6	45.1	.1598	33.5	37.5	34.5	71.6	.1610	29.7
10	48.4	41.0	47.2	.1608	33.2	47.2	40.0	47.1	.1534	32.0	39.7	35.9	65.0	.1613	30.8
11	48.4	40.6	44.4	.1511	33.1	50.3	42.2	44.7	.1629	33.5	50.1	43.8	56.2	.2031	37.6
Noon.	48.5	40.4	42.6	.1457	31.2	48.5	41.0	46.6	.1590	32.4	49.8	42.3	48.0	.1720	34.4
1h	48.7	40.6	42.8	.1477	31.3	51.5	44.0	49.8	.1900	35.8	49.5	42.0	47.7	.1690	33.5
2	46.5	40.2	52.7	.1671	33.1	52.1	43.8	45.5	.1771	35.7	52.2	43.8	45.0	.1758	35.4
3	44.9	39.7	59.1	.1767	34.1	51.9	44.0	47.7	.1848	35.6	51.7	43.2	43.8	.1682	33.4
4	47.7	40.2	45.6	.1510	31.7	52.0	44.0	47.2	.1830	35.8	50.7	43.0	47.7	.1764	35.1
5	46.6	39.9	50.0	.1574	32.3	52.5	44.4	47.1	.1851	35.4	51.3	42.5	41.5	.1571	33.9
6	45.5	39.6	54.5	.1668	33.8	52.6	44.6	47.9	.1896	35.5	51.3	41.9	37.9	.1428	32.5
7	43.9	38.8	58.9	.1699	33.2	46.2	41.0	60.4	.1894	35.3	51.1	42.4	41.9	.1574	32.7
8	46.3	40.5	56.1	.1766	34.2	44.4	39.8	63.2	.1857	34.2	51.5	42.3	39.3	.1497	32.3
9	48.2	41.4	51.0	.1761	33.3	41.9	38.6	71.8	.1915	35.3	50.1	41.9	42.8	.1585	32.8
10	48.7	41.8	50.4	.1648	34.4	42.0	37.8	64.4	.1726	33.1	50.8	42.0	40.9	.1521	32.5
11	+48.6	+41.5	49.3	0.1692	+34.3	+43.7	+39.8	68.2	0.1948	+35.3	+51.1	+42.7	43.7	0.1645	+34.4
Means.			55.62	0.1721	+33.69			51.01	0.1710	+33.72			56.90	0.1576	+31.80

Day.	JULY, 1872.														
	3.					12.					13.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	+51.5	+43.2	44.8	0.1711	+34.6	+36.7	+35.1	84.4	0.1835	+32.2	+38.6	+36.1	76.7	0.1799	+32.0
1	51.4	43.0	44.1	.1678	34.2	37.6	35.2	87.2	.1744	32.3	38.7	37.0	84.2	.1984	34.3
2	50.8	43.8	52.3	.1940	35.6	41.0	39.1	83.3	.2147	36.5	38.9	37.0	82.4	.1958	34.4
3	48.6	41.0	46.1	.1577	33.4	39.8	38.2	85.5	.2105	35.4	38.8	37.0	83.3	.1971	34.3
4	44.2	39.7	63.8	.1860	34.3	40.8	39.1	84.9	.2173	36.7	38.5	36.9	85.1	.1988	34.8
5	43.9	39.3	62.8	.1807	33.1	39.4	37.5	82.5	.2003	35.5	37.9	36.4	85.8	.1956	33.8
6	42.7	38.8	67.4	.1805	34.2	44.5	40.7	70.4	.2024	36.4	37.9	36.4	85.8	.1956	33.8
7	44.2	39.5	62.3	.1814	34.1	45.1	41.6	72.4	.2170	37.1	37.3	36.0	87.5	.1951	34.4
8	51.7	49.3	83.3	.2095	46.9	46.7	42.2	65.8	.2098	36.4	36.9	35.4	85.4	.1872	32.2
9	52.4	41.5	30.3	.1198	29.8	45.3	41.2	67.9	.2057	36.4	37.7	36.1	84.7	.1916	33.3
10	44.3	41.0	73.4	.2141	36.9	45.7	40.7	61.4	.1890	35.3	38.2	35.8	77.4	.1792	32.4
11	45.0	40.2	62.2	.1869	34.3	40.7	37.2	69.3	.1766	32.0	38.7	36.5	79.6	.1874	34.3
Noon.	43.8	40.0	69.1	.1981	35.3	41.9	38.2	68.5	.1822	33.2	38.8	36.5	78.7	.1861	34.4
1^h	43.9	40.4	71.6	.2056	35.2	39.5	36.4	72.0	.1749	33.3	37.5	35.5	80.9	.1820	32.2
2	42.0	39.4	74.6	.2026	35.3	39.9	36.9	73.1	.1807	33.2	37.2	36.5	93.2	.2087	28.7
3	43.1	39.2	67.8	.1888	34.1	39.8	36.7	72.2	.1773	33.3	37.7	35.5	79.1	.1791	33.3
4	41.7	38.9	75.8	.2011	35.4	38.7	36.3	77.8	.1832	32.8	37.6	35.2	77.2	.1744	32.2
5	43.1	39.2	67.8	.1888	34.2	38.3	36.0	78.5	.1821	32.9	36.7	35.0	83.5	.1814	32.6
6	41.9	38.4	70.2	.1866	33.1	38.2	36.0	79.4	.1834	33.0	35.9	34.2	83.1	.1750	31.2
7	48.3	45.0	75.7	.2561	41.7	38.1	36.1	81.2	.1868	33.1	35.9	34.2	83.1	.1750	31.2
8	48.6	48.0	95.5	.2277	42.1	38.2	36.2	81.2	.1876	33.2	35.8	34.2	84.5	.1763	31.1
9	48.1	40.5	45.4	.1527	31.2	38.8	36.9	82.4	.1949	34.2	36.4	34.0	76.5	.1648	29.9
10	49.5	40.9	39.6	.1437	32.4	38.4	36.2	80.3	.1850	33.2	35.1	33.8	87.1	.1775	32.0
11	+48.6	+41.0	46.1	0.1577	+32.5	+38.8	+36.9	82.4	0.1949	+34.4	+35.0	+33.9	88.8	0.1809	+32.3
Means.			62.16	0.1903	+35.16			76.83	0.1923	+34.25			83.07	0.1860	+32.71

Day.	JULY, 1872.														
	14.					15.					16.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	+34.9	+33.8	88.7	0.1801	+32.5	+36.8	+35.7	89.3	0.1953	+34.6	+38.6	+36.8	88.6	0.2028	+35.8
1	35.0	33.8	87.7	.1788	32.4	36.6	35.3	87.3	.1895	33.5	37.4	36.0	86.5	.1938	34.1
2	34.9	33.8	88.7	.1801	32.4	37.0	35.8	88.3	.1948	34.4	38.2	36.9	87.7	.2023	35.2
3	34.4	33.5	90.5	.1803	32.0	36.6	34.5	79.5	.1727	31.1	38.7	37.5	88.8	.2089	35.4
4	34.5	33.6	90.6	.1810	32.1	36.5	35.3	88.2	.1908	33.7	38.7	36.9	83.3	.1962	34.4
5	34.5	33.6	90.6	.1810	32.1	37.0	35.7	87.4	.1927	34.5	39.7	38.0	84.6	.2074	35.8
6	34.6	33.8	91.7	.1837	32.6	37.1	35.7	86.4	.1914	34.6	40.4	38.4	82.2	.2066	35.9
7	35.5	34.7	92.9	.1907	34.0	37.1	35.7	86.4	.1914	34.6	40.4	38.0	78.6	.1978	34.8
8	35.8	34.8	90.0	.1894	33.8	37.5	36.0	85.6	.1920	34.0	40.4	38.0	78.6	.1978	34.8
9	36.3	35.2	89.1	.1913	33.3	38.2	36.4	83.1	.1913	33.6	39.8	37.7	81.4	.2080	35.1
10	36.2	35.0	88.1	.1884	33.2	37.0	35.7	87.4	.1927	34.2	38.4	36.7	84.1	.1957	34.5
11	37.4	36.0	86.5	.1938	34.3	36.7	35.4	87.3	.1903	32.8	39.5	37.7	83.6	.2043	35.6
Noon.	37.7	35.9	82.8	.1873	33.4	36.7	35.2	85.4	.1856	32.6	41.2	38.5	76.5	.1984	34.8
1^h	39.0	37.1	82.5	.1967	34.5	36.8	35.3	85.4	.1864	32.6	39.4	35.6	65.7	.1589	30.8
2	39.2	37.2	81.7	.1958	34.4	37.5	36.0	85.6	.1920	34.0	38.7	36.7	81.5	.1916	34.2
3	38.0	36.2	83.0	.1899	33.7	37.3	35.8	85.5	.1904	33.9	39.3	37.2	80.8	.1945	34.3
4	37.5	35.8	83.7	.1878	34.0	37.1	35.7	86.4	.1914	34.3	39.1	36.6	77.1	.1844	33.3
5	36.9	35.3	84.5	.1851	32.8	36.7	35.3	86.3	.1882	33.4	38.5	36.5	81.4	.1900	33.8
6	36.8	35.1	83.5	.1822	32.7	37.7	36.2	85.7	.1938	34.1	38.7	37.0	84.2	.1984	34.7
7	37.0	35.6	86.4	.1906	33.4	36.8	35.4	86.4	.1890	32.8	37.6	35.5	80.0	.1807	32.7
8	36.6	35.3	87.3	.1895	33.2	36.9	35.4	85.4	.1880	32.7	37.7	36.1	84.7	.1916	33.2
9	35.8	35.0	92.0	.1931	34.0	36.9	35.5	86.4	.1898	32.8	37.7	36.6	89.5	.2025	35.5
10	36.2	35.1	89.1	.1905	33.1	36.9	35.6	87.4	.1919	32.9	37.8	36.8	90.5	.2054	35.2
11	+36.5	+35.2	87.2	0.1887	+33.0	+37.3	+36.0	87.5	0.1951	+34.2	+36.7	+35.8	94.0	0.1982	+34.7
Means.			87.45	0.1873	+33.20			86.23	0.1903	+33.58			83.08	0.1965	+34.52

NOTE.—Original record from July 4th to July 11th lost.

Day.	JULY, 1872.														
	17.					18.					19.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	+36.2	+35.3	91.0	0.1942	+33.6	+36.8	+35.0	82.5	0.1811	+32.2	+38.1	+35.8	78.3	0.1805	+33.3
1	35.7	35.0	92.9	.1944	33.9	37.1	35.3	82.6	.1835	32.1	37.6	35.3	77.1	.1778	32.2
2	35.1	34.0	88.8	.1817	32.3	37.5	35.6	81.8	.1836	33.4	37.5	35.3	77.1	.1778	32.2
3	35.0	33.9	88.8	.1809	32.1	36.7	35.0	83.5	.1814	32.6	37.5	35.2	77.0	.1769	32.2
4	34.2	33.1	88.5	.1435	31.2	36.2	34.8	85.0	.1811	32.7	37.7	35.8	81.9	.1852	33.3
5	34.1	33.0	88.5	.1427	31.1	36.7	35.0	83.5	.1814	32.6	37.7	35.8	81.9	.1852	33.3
6	34.1	33.0	88.5	.1427	31.1	36.5	34.9	84.4	.1819	32.2	37.7	35.9	82.8	.1862	33.1
7	34.0	32.8	87.4	.1710	30.8	36.3	34.8	85.5	.1822	32.1	38.0	36.0	81.1	.1860	33.3
8	34.7	33.5	87.6	.1764	32.4	36.1	34.8	87.1	.1855	31.9	38.1	36.0	80.2	.1847	33.4
9	34.7	33.7	89.7	.1806	32.7	36.1	34.6	85.1	.1808	32.0	37.7	35.9	82.8	.1862	32.4
10	36.2	35.2	89.5	.1919	33.5	36.2	34.6	84.2	.1795	32.1	38.2	36.1	80.3	.1855	33.5
11	37.8	36.7	89.4	.2033	35.8	36.1	34.7	86.0	.1834	32.0	37.5	35.5	80.9	.1820	32.8
Noon.	37.5	36.6	91.4	.2052	31.8	35.5	34.2	86.9	.1817	31.8	37.6	35.0	75.3	.1697	31.0
1^h	38.3	37.0	87.8	.2031	35.4	36.4	35.0	86.2	.1858	32.6	37.8	35.6	79.1	.1798	32.1
2	38.5	37.1	86.9	.2027	35.1	36.3	34.5	82.3	.1761	32.9	37.9	35.5	77.2	.1768	32.0
3	38.7	37.0	84.2	.1984	35.5	36.9	34.8	79.7	.1751	33.1	39.6	37.0	76.5	.1867	33.1
4	38.7	37.0	84.2	.1984	35.5	38.3	36.2	80.3	.1863	33.2	41.5	38.4	73.3	.1923	34.2
5	39.5	37.6	82.7	.2012	35.2	39.2	37.2	81.7	.1958	34.3	39.9	36.6	70.5	.1752	33.1
6	38.7	35.5	79.6	.1874	34.2	37.9	36.3	84.8	.1934	33.6	40.2	37.3	74.0	.1852	33.0
7	38.1	35.3	73.7	.1695	32.3	37.5	36.3	88.5	.1988	34.5	40.7	38.1	77.1	.1957	34.2
8	38.1	36.3	83.0	.1908	33.3	38.4	36.3	80.3	.1871	33.2	41.2	38.8	78.9	.1988	36.5
9	38.5	36.4	80.4	.1879	33.1	38.0	36.5	85.8	.1965	34.0	40.5	38.0	77.9	.1960	34.1
10	38.1	36.2	82.1	.1886	33.0	37.7	35.7	81.8	.1836	33.2	42.0	38.7	71.9	.1897	35.3
11	+37.4	+35.8	85.0	0.1891	+33.2	+37.9	+36.2	83.9	0.1912	+33.8	+40.0	+37.2	74.9	0.1870	+33.1
Means.			86.32	0.1844	+33.39			83.93	0.1849	+32.84			77.83	0.1845	+33.20

Day.	JULY, 1872.														
	20.					21.					22.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	+35.7	+34.1	84.0	0.1755	+31.0	+43.7	+40.3	72.2	0.2058	+35.3	+41.8	+39.0	76.0	0.2021	+35.3
1	35.9	34.1	82.1	.1729	30.9	42.1	38.4	68.7	.1840	33.1	42.1	39.0	73.6	.1977	35.4
2	39.8	37.7	81.0	.1990	35.4	42.0	38.9	73.5	.1968	35.3	42.6	39.7	75.6	.2080	36.4
3	40.8	39.0	84.1	.2151	36.5	45.7	41.9	74.0	.2161	37.4	42.4	39.0	71.4	.1938	34.8
4	41.7	40.0	85.3	.2254	37.5	44.7	40.4	67.3	.1951	35.3	42.2	39.4	76.1	.2057	35.3
5	37.5	35.9	84.7	.1899	33.3	43.1	39.0	66.2	.1847	34.2	42.6	40.0	78.1	.2137	36.8
6	36.6	34.8	84.3	.1785	32.2	45.1	40.5	62.8	.1920	34.2	43.2	41.3	87.0	.2355	38.7
7	40.4	36.8	68.3	.1701	32.0	47.2	42.0	59.4	.1994	36.4	44.5	42.0	79.8	.2340	39.6
8	44.4	40.0	64.8	.1898	35.3	46.9	41.2	57.5	.1844	34.3	45.5	42.0	72.6	.2210	38.5
9	37.7	34.5	70.0	.1560	30.9	45.7	40.2	57.7	.1778	33.2	45.3	42.4	77.1	.2332	39.7
10	38.5	35.5	72.3	.1690	32.0	46.0	41.0	61.7	.1920	35.3	44.8	42.0	77.6	.2319	37.4
11	39.9	37.0	74.0	.1823	33.1	46.0	40.6	58.7	.1828	35.2	45.7	42.7	76.6	.2350	39.9
Noon.	38.7	35.9	74.1	.1743	32.0	45.6	40.0	56.9	.1747	33.2	42.3	39.8	78.8	.2132	36.5
1^h	38.3	36.4	82.2	.1904	30.8	43.5	38.7	61.7	.1724	33.1	42.3	39.9	79.7	.2149	36.3
2	39.7	37.8	82.6	.2030	35.4	42.7	38.5	65.0	.1789	33.1	41.9	39.8	82.0	.2179	37.5
3	39.2	37.0	79.9	.1914	34.3	45.3	41.0	66.4	.2011	36.4	41.2	39.0	80.8	.2094	36.4
4	40.2	37.5	76.0	.1894	34.2	43.4	38.2	58.3	.1632	32.0	42.5	40.3	81.4	.2214	37.5
5	41.2	38.3	75.3	.1938	34.0	42.8	39.0	68.4	.1881	35.3	40.9	38.9	82.3	.2111	36.5
6	41.5	38.7	75.8	.1991	35.3	43.7	39.5	65.8	.1879	35.4	40.7	38.9	84.0	.2142	36.4
7	40.0	37.3	75.8	.1878	33.1	43.7	39.0	62.5	.1821	33.1	39.7	37.8	82.7	.2030	35.4
8	41.2	38.4	75.6	.1961	29.7	44.5	40.0	64.1	.1890	34.2	40.9	38.8	81.5	.2089	36.5
9	39.7	36.8	73.9	.1810	33.1	43.5	39.4	66.5	.1883	34.3	39.9	37.8	81.0	.1999	35.4
10	42.2	39.2	74.5	.2008	35.3	43.7	40.0	69.9	.1994	35.2	39.8	38.3	86.4	.2127	36.0
11	+41.4	+39.2	80.9	0.2052	+36.5	+44.0	+40.0	67.7	0.1950	+35.3	+39.0	+37.6	87.0	0.2072	+36.5
Means.			77.56	0.1890	+33.49			64.70	0.1888	+34.57			79.54	0.2144	+36.95

Day.	July, 1872.														
	23.					24.					25.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	+39.8	+38.6	89.1	0.2188	+37.7	+42.6	+40.4	81.5	0.2224	+37.5	+35.7	+34.8	90.9	0.1902	+33.5
1	39.2	38.5	93.5	.2249	36.7	39.2	38.0	83.9	.2134	36.7	36.1	35.1	90.1	.1918	33.6
2	37.9	37.3	94.3	.2154	35.6	38.7	37.1	85.2	.2006	34.3	35.7	35.0	93.0	.1944	33.4
3	38.1	37.4	94.4	.2150	37.0	39.9	38.5	87.3	.2153	35.5	35.8	35.0	92.1	.1931	34.5
4	38.9	38.4	95.3	.2266	37.1	39.8	38.4	87.3	.2162	36.4	35.9	35.1	92.1	.1939	34.2
5	39.8	39.0	92.8	.2281	38.6	39.6	38.2	87.2	.2180	36.1	36.7	36.0	93.1	.2024	34.5
6	40.1	39.0	92.0	.2268	38.9	39.4	38.0	87.2	.2189	35.9	39.7	38.2	86.9	.2117	35.4
7	39.6	38.9	93.6	.2285	38.8	39.4	38.0	87.2	.2189	35.9	42.7	40.4	80.7	.2211	37.5
8	40.5	39.8	93.7	.2297	39.2	39.3	37.9	87.1	.2198	36.0	41.1	39.6	86.8	.2244	36.9
9	38.7	38.2	95.3	.2248	37.1	39.3	37.7	85.3	.2060	36.6	39.8	38.2	85.6	.2105	35.4
10	37.9	37.2	93.3	.2132	36.1	38.9	37.6	87.9	.2085	36.4	41.0	39.2	85.9	.2169	36.5
11	38.7	37.9	92.5	.2182	37.3	38.7	37.4	87.3	.2103	35.5	42.0	39.8	81.2	.2166	37.4
Noon.	38.7	38.0	93.5	.2204	37.2	37.9	36.9	90.5	.2062	35.6	42.7	40.5	81.5	.2234	37.5
1^h	37.9	37.2	93.3	.2132	36.4	37.5	36.5	90.4	.2022	35.1	43.5	41.3	82.6	.2314	38.6
2	37.9	37.2	93.3	.2132	36.4	37.5	36.2	87.5	.1957	34.9	43.9	41.5	80.4	.2308	39.6
3	37.5	36.8	93.3	.2096	36.3	37.7	36.4	87.6	.1983	33.9	43.2	41.1	82.5	.2307	38.6
4	37.0	36.3	93.2	.2051	35.2	37.6	36.4	88.5	.1995	33.8	38.9	37.5	87.0	.2063	35.9
5	36.2	35.7	95.0	.2026	35.5	37.8	36.6	88.6	.2014	35.6	38.9	37.7	88.8	.2107	36.7
6	37.5	36.8	93.3	.2095	36.4	38.7	37.0	84.2	.1984	34.3	37.9	36.9	88.6	.2062	35.6
7	37.5	37.0	95.2	.2140	36.3	38.3	36.8	85.9	.1992	34.8	33.5	32.7	91.5	.1760	31.2
8	38.0	36.6	86.7	.1985	33.9	37.5	36.5	90.4	.2030	35.0	32.7	32.0	92.4	.1724	30.0
9	36.4	35.9	95.0	.2042	35.4	38.1	36.7	85.6	.1994	35.3	37.5	36.0	85.6	.1920	34.6
10	37.5	36.8	93.3	.2095	36.1	37.2	36.0	88.4	.1954	34.8	38.7	36.9	84.2	.1962	34.3
11	+37.5	+36.8	93.3	0.2096	+36.1	+36.5	+36.3	98.0	0.2118	+35.9	+39.7	+37.4	79.2	0.1937	+33.8
Means.			93.26	0.2158	+36.72			87.75	0.2075	+35.58			86.78	0.2057	+35.38

Day.	July, 1872.														
	26.					27.					28.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	+39.3	+37.7	85.3	0.2060	+35.4	+39.8	+38.8	88.3	0.2232	+37.8	+41.4	+38.8	77.5	0.2027	+35.3
1	37.0	35.5	85.5	.1880	33.6	39.0	38.0	90.7	.2160	36.7	41.1	38.7	78.9	.2051	35.2
2	37.1	36.0	89.4	.1977	34.6	39.9	39.2	92.8	.2312	38.1	42.0	38.3	68.6	.1831	33.1
3	38.4	36.8	85.0	.1979	34.4	39.9	39.2	92.8	.2312	38.1	42.4	38.6	68.0	.1845	34.2
4	39.5	38.0	86.3	.2100	35.4	40.3	39.2	90.1	.2257	37.6	44.5	40.2	65.7	.1931	35.2
5	39.4	38.0	87.2	.2113	35.3	39.6	38.9	93.6	.2285	37.4	47.2	42.3	63.3	.2061	36.4
6	42.2	40.2	83.0	.2230	37.5	39.9	39.0	91.9	.2268	37.9	45.1	40.8	73.3	.2121	37.5
7	39.1	37.6	86.2	.2055	34.3	39.6	38.9	93.6	.2285	38.2	47.0	42.3	64.6	.2087	36.4
8	43.1	41.5	85.6	.2412	38.6	39.8	39.0	92.8	.2281	38.4	42.3	38.8	70.5	.1902	34.6
9	42.2	40.0	81.3	.2184	27.5	41.2	40.3	92.1	.2388	38.7	43.7	39.7	67.5	.1923	35.3
10	41.5	39.0	78.4	.2060	35.3	44.1	43.1	91.8	.2651	41.8	45.7	40.9	63.0	.1932	35.3
11	43.1	40.3	76.9	.2138	35.4	44.6	43.3	89.5	.2634	41.6	43.7	39.6	66.7	.1901	35.2
Noon.	44.7	41.7	76.0	.2250	38.5	44.7	43.2	87.9	.2600	41.7	44.5	40.1	65.7	.1908	34.4
1^h	42.0	39.7	80.4	.2144	36.9	47.4	45.3	84.1	.2750	43.9	44.5	40.1	65.7	.1908	34.4
2	45.7	42.4	74.3	.2281	38.5	44.7	43.2	87.9	.2600	41.7	45.3	40.6	63.2	.1918	34.3
3	42.4	40.0	79.7	.2158	37.5	43.0	41.2	84.8	.2359	38.6	44.9	40.6	65.9	.1971	34.2
4	42.2	40.3	83.8	.2258	37.4	45.4	43.7	86.4	.2624	41.9	42.2	38.6	69.6	.1871	33.1
5	40.6	38.8	83.7	.2133	34.5	46.0	41.0	61.7	.1920	35.3	41.8	38.9	75.1	.1998	25.3
6	41.1	39.2	83.3	.2156	35.5	41.5	39.9	63.3	.1867	34.2	42.6	39.2	71.5	.1956	34.2
7	39.5	38.1	87.2	.2117	35.7	45.0	40.2	62.3	.1869	34.1	41.9	38.5	71.0	.1893	34.3
8	39.8	38.3	86.4	.2127	35.6	43.9	39.8	65.8	.1919	30.6	40.7	37.5	71.1	.1829	33.1
9	40.5	39.0	86.6	.2190	35.5	43.5	39.2	64.9	.1839	34.2	38.4	35.9	76.7	.1782	32.0
10	39.7	38.6	90.0	.2201	37.7	43.4	39.4	67.2	.1895	34.1	38.7	36.8	82.3	.1942	34.3
11	+38.7	+37.9	92.5	0.2182	+36.7	+42.5	+38.5	65.5	0.1815	+33.1	+39.6	+36.9	75.6	0.1845	+33.1
Means.			83.96	0.2141	+35.85			82.66	0.2255	+38.11			70.04	0.1935	+34.60

Day.	JULY, 1872.														
	29.					30.					31.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+38.5	+35.8	75.0	0.1748	+32.0	+39.7	+36.7	73.0	0.1786	+33.0	+38.7	+35.7	72.4	0.1706	+32.0
1	39.0	36.4	76.2	.1813	32.3	39.2	36.5	75.4	.1809	32.1	39.5	36.3	71.2	.1728	32.1
2	37.9	35.6	78.2	.1789	33.3	40.0	37.3	75.9	.1878	32.9	39.5	36.7	74.7	.1814	32.3
3	39.9	37.2	75.8	.1870	33.1	39.5	36.8	75.5	.1836	32.8	39.3	36.8	77.2	.1862	33.1
4	40.3	37.5	75.1	.1881	34.2	39.4	36.9	77.3	.1871	33.2	38.6	36.2	77.8	.1824	32.2
5	40.9	37.9	73.7	.1891	33.9	39.6	37.0	76.5	.1867	34.0	39.1	37.0	80.7	.1927	34.3
6	44.9	41.5	73.0	.2178	36.4	39.2	36.5	75.4	.1809	33.1	39.4	37.3	80.8	.1954	34.4
7	45.7	43.2	80.4	.2470	39.6	38.1	36.0	80.2	.1847	33.3	37.3	35.3	80.8	.1804	32.2
8	47.5	46.0	88.6	.2910	43.8	37.5	35.9	84.7	.1899	34.9	37.4	35.1	79.9	.1749	31.3
9	48.2	46.0	83.6	.2814	43.7	37.7	36.4	87.6	.1983	34.7	37.9	36.1	82.9	.1890	33.4
10	49.7	43.9	59.2	.2110	37.6	39.8	38.4	87.3	.2144	36.7	37.7	35.7	81.0	.1836	33.1
11	47.7	41.8	56.8	.1878	35.4	39.1	37.8	88.0	.2103	35.9	37.8	36.0	82.9	.1881	33.2
Noon.	47.4	42.1	60.7	.1991	36.4	39.4	37.4	81.8	.1976	34.3	37.5	35.3	79.0	.1778	32.6
1h	45.9	40.8	60.9	.1887	35.3	38.4	37.3	89.7	.2084	35.6	37.7	36.0	83.8	.1894	33.4
2	44.9	40.4	64.5	.1926	34.2	37.5	36.8	93.3	.2096	35.6	38.1	36.7	88.5	.1978	34.2
3	42.1	38.2	67.0	.1796	33.1	36.7	35.7	90.2	.1966	34.6	38.5	36.5	81.4	.1900	34.3
4	44.8	40.3	64.4	.1917	33.2	36.6	35.0	84.4	.1827	33.5	39.4	35.2	62.2	.1510	29.7
5	44.3	39.8	63.9	.1870	34.1	37.5	35.5	80.9	.1820	33.3	38.4	36.2	79.3	.1850	33.3
6	45.3	40.8	64.8	.1962	34.3	37.7	35.3	77.1	.1752	32.4	39.2	37.5	84.4	.2029	35.4
7	42.5	39.0	70.6	.1920	34.2	37.3	35.7	84.6	.1882	34.2	38.1	35.9	79.3	.1826	33.3
8	42.7	38.8	67.5	.1850	32.0	37.6	35.2	77.1	.1744	32.3	38.7	37.1	85.1	.2006	34.3
9	40.6	37.4	71.8	.1820	33.1	38.3	34.9	67.4	.1590	31.1	37.7	35.5	79.1	.1794	32.7
10	39.9	37.0	74.0	.1828	34.0	38.7	36.1	76.1	.1786	31.9	36.7	35.6	89.2	.1945	34.6
11	+39.7	+36.7	73.0	0.1786	+33.1	+38.4	+35.0	67.5	0.1598	+30.8	+36.1	+34.3	82.2	0.1745	+31.3
Means.			70.78	0.1996	+35.10			80.29	0.1869	+33.59			80.24	0.1845	+33.02

Day.	AUGUST, 1872.														
	1.					2.					3.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+35.7	+33.8	80.6	0.1694	+31.0	+38.6	+36.4	79.5	0.1866	+33.3	+37.6	+35.8	82.6	0.1865	+33.3
1	36.1	34.3	82.2	.1745	30.9	38.7	37.1	85.2	.2006	34.3	37.6	35.7	81.8	.1844	33.2
2	36.0	34.0	80.2	.1700	31.0	39.0	36.4	76.1	.1813	32.0	38.0	36.4	84.9	.1943	33.0
3	39.0	37.0	81.6	.1940	34.3	39.5	37.0	77.3	.1880	33.1	37.7	36.0	83.8	.1894	32.9
4	36.9	35.3	84.5	.1851	32.2	39.1	36.8	78.8	.1885	34.3	37.9	36.0	82.0	.1868	32.7
5	35.1	33.2	80.7	.1652	29.8	40.5	37.7	75.3	.1897	34.2	38.5	37.0	85.0	.2010	34.3
6	35.8	34.0	82.1	.1721	31.0	42.3	40.8	87.2	.2360	38.6	39.5	37.5	81.8	.1985	35.4
7	37.5	35.8	83.7	.1878	33.3	43.0	40.5	79.2	.2195	37.5	40.1	38.0	81.2	.2017	35.5
8	35.7	34.1	84.0	.1755	31.0	43.7	40.8	75.2	.2170	36.9	41.2	38.9	79.9	.2072	36.5
9	38.2	36.1	80.3	.1855	33.3	42.1	38.8	71.9	.1933	35.3	39.4	37.1	79.0	.1910	34.3
10	39.9	37.3	76.7	.1891	33.1	41.1	38.0	73.0	.1887	34.2	39.4	37.3	80.9	.1954	34.2
11	38.5	36.5	81.4	.1900	33.3	40.9	37.9	73.7	.1891	34.1	39.2	37.1	80.8	.1936	34.3
Noon.	39.8	37.2	76.6	.1883	33.0	41.4	37.7	68.1	.1780	33.1	38.4	36.4	81.3	.1892	33.3
1h	38.4	35.7	74.9	.1740	32.0	42.7	39.0	69.1	.1894	34.2	39.7	37.4	79.3	.1937	34.2
2	40.4	37.2	71.7	.1802	33.1	42.0	38.4	69.4	.1853	33.1	38.9	36.7	79.7	.1890	34.0
3	38.7	35.7	72.3	.1706	32.1	41.7	38.4	71.7	.1897	34.1	40.1	37.7	78.4	.1951	34.3
4	41.0	38.2	75.5	.1941	34.2	41.0	38.1	74.7	.1918	34.2	39.0	37.2	83.4	.1989	34.1
5	40.7	38.0	76.3	.1934	34.1	40.9	38.2	76.4	.1954	34.3	38.1	36.0	80.2	.1847	33.3
6	39.1	37.7	87.0	.2081	36.7	41.5	38.2	72.3	.1879	33.9	37.9	36.0	82.0	.1868	33.1
7	41.5	38.5	74.1	.1945	34.2	39.7	37.1	76.5	.1875	33.1	36.9	35.0	82.6	.1788	32.2
8	39.6	36.9	75.6	.1845	33.1	38.8	36.4	77.9	.1840	33.3	36.3	34.7	84.2	.1803	31.0
9	40.1	37.5	76.8	.1907	34.3	38.6	36.5	80.5	.1887	34.2	35.6	34.0	84.0	.1747	29.8
10	39.6	37.0	76.5	.1867	33.0	38.0	35.8	79.2	.1818	33.4	34.8	33.2	83.6	.1691	29.7
11	+38.6	+36.1	76.9	0.1799	+32.0	+37.6	+35.8	82.6	0.1865	+34.6	+34.8	+33.1	82.6	0.1671	+29.9
Means.			78.84	0.1835	+32.75			76.28	0.1927	+34.30			81.92	0.1891	+33.27

Day.	AUGUST, 1872.														
	4.					5.					6.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+35.0	+33.0	79.7	0.1620	+29.8	+40.5	+37.7	75.2	0.1897	+34.2	+36.4	+34.0	76.5	0.1648	+31.0
1	34.1	32.7	85.2	.1677	31.2	40.7	37.7	73.6	.1873	34.1	36.4	33.7	73.6	.1578	28.5
2	34.4	32.7	82.4	.1643	30.4	40.9	37.7	72.0	.1847	34.0	37.4	35.0	77.1	.1728	32.2
3	37.4	35.3	79.9	.1791	32.2	40.7	37.7	73.6	.1873	34.1	38.4	35.7	74.9	.1740	32.0
4	40.2	38.9	88.3	.2202	36.5	42.2	38.5	68.8	.1849	34.2	41.1	38.0	73.0	.1887	34.2
5	39.6	37.0	76.5	.1867	33.1	45.4	41.2	67.1	.2044	36.4	41.3	38.6	76.5	.1994	35.3
6	37.4	35.3	79.9	.1791	32.2	43.3	39.3	67.1	.1887	34.2	38.9	37.0	82.5	.1958	34.3
7	37.6	35.2	77.3	.1744	31.6	46.3	40.5	55.5	.1765	34.3	38.0	35.3	74.7	.1958	30.9
8	43.8	39.4	64.2	.1844	34.2	44.7	37.9	46.9	.1393	28.9	39.5	36.3	71.2	.1728	32.0
9	45.2	39.2	53.5	.1618	32.0	45.7	39.8	55.5	.1688	33.2	43.1	38.9	65.3	.1835	34.2
10	49.0	42.5	53.9	.1870	35.4	44.7	38.5	51.6	.1529	32.0	45.0	39.9	59.9	.1798	34.3
11	50.3	44.2	57.7	.2099	37.6	44.8	37.8	45.6	.1362	29.9	38.7	34.9	65.2	.1546	29.7
Noon.	49.6	43.8	59.1	.2099	37.5	43.2	37.4	52.9	.1483	29.8	40.5	35.7	57.9	.1467	29.7
1h	48.5	42.8	58.8	.2004	36.5	47.0	40.8	54.0	.1744	34.3	40.1	36.3	66.3	.1648	30.8
2	51.7	44.0	48.8	.1874	35.8	42.0	37.3	60.5	.1618	30.9	37.5	34.0	66.9	.1500	28.5
3	47.5	41.4	55.2	.1817	34.3	42.5	38.0	62.3	.1700	32.0	39.7	35.7	64.2	.1576	30.8
4	41.0	36.8	63.5	.1638	30.8	42.2	37.3	58.7	.1592	30.9	37.7	33.2	57.9	.1314	26.2
5	41.7	37.9	67.5	.1783	33.1	42.2	37.8	62.8	.1700	32.1	37.9	34.5	68.1	.1558	29.7
6	43.8	40.4	72.2	.2068	36.4	41.1	35.8	62.7	.1625	32.0	38.9	35.0	64.4	.1528	29.8
7	41.9	38.4	70.2	.1866	33.1	39.3	35.6	66.6	.1602	30.8	38.5	35.0	67.7	.1580	29.7
8	40.8	38.0	75.2	.1921	33.6	40.8	37.2	68.5	.1753	32.1	37.6	31.5	70.7	.1597	32.2
9	40.5	37.4	72.6	.1833	32.0	39.8	35.4	69.5	.1710	32.0	37.7	34.8	72.6	.1634	32.1
10	40.5	37.4	72.6	.1833	32.0	38.1	35.1	72.0	.1658	30.9	37.2	34.1	70.4	.1565	29.7
11	+40.5	+37.2	79.9	0.1789	+31.9	+36.8	+34.3	75.8	0.1654	+29.7	+35.9	+33.7	78.2	0.1650	+31.0
Means.			67.67	0.1845	+33.47			63.28	0.1702	+32.79			69.40	0.1668	+31.2

Day.	AUGUST, 1872.														
	7.					8.					9.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+36.0	+34.3	83.2	0.1758	+31.0	+37.1	+35.1	80.7	0.1788	+32.3	+38.6	+35.8	74.1	0.1735	+32.0
1	36.7	35.3	86.4	.1882	33.5	36.7	34.7	80.6	.1756	32.2	38.5	35.4	71.4	.1669	30.9
2	36.7	34.0	73.8	.1604	29.7	37.0	35.3	83.6	.1838	33.0	38.1	35.6	76.5	.1758	32.0
3	36.4	34.0	76.5	.1648	31.0	36.2	34.7	85.2	.1815	32.2	39.9	37.2	75.8	.1870	33.1
4	35.7	33.8	81.0	.1694	30.9	35.5	34.0	84.9	.1760	32.4	40.7	37.6	72.8	.1851	34.2
5	35.5	33.5	80.0	.1660	29.9	35.5	34.0	84.9	.1760	32.4	41.5	38.3	72.4	.1901	34.4
6	36.2	34.1	79.3	.1685	31.1	35.5	34.0	84.9	.1760	32.4	41.9	38.3	69.4	.1844	33.1
7	36.9	35.0	81.6	.1788	32.2	36.4	34.8	84.3	.1811	32.2	43.0	38.6	63.6	.1772	32.2
8	35.6	34.8	81.3	.1785	32.3	37.5	35.7	82.7	.1857	33.3	45.1	40.3	62.4	.1878	34.2
9	36.5	34.6	80.4	.1752	31.3	40.6	37.8	75.3	.1905	34.2	44.1	39.1	59.8	.1739	33.1
10	38.2	35.8	77.4	.1792	33.3	45.0	40.5	64.6	.1935	34.3	43.7	39.1	62.9	.1787	33.2
11	37.6	35.4	79.1	.1786	32.2	39.5	36.3	71.2	.1488	32.0	43.8	38.4	56.5	.1624	32.0
Noon.	37.7	35.4	78.2	.1773	32.3	40.2	37.2	73.3	.1828	33.1	42.8	38.0	60.1	.1661	32.3
1h	38.0	35.5	76.5	.1750	32.5	39.3	36.5	74.6	.1796	29.7	44.7	39.2	56.7	.1680	32.0
2	37.9	35.5	77.2	.1737	32.5	40.0	37.3	75.9	.1888	33.1	44.2	39.2	59.9	.1748	33.1
3	37.7	35.4	78.2	.1760	32.3	39.7	36.6	72.2	.1765	28.6	42.2	37.8	62.8	.1700	32.0
4	39.6	37.0	76.5	.1867	33.1	39.5	36.4	72.0	.1749	28.7	42.7	38.7	66.7	.1833	34.2
5	39.5	36.7	74.7	.1814	34.4	40.5	36.9	68.3	.1728	32.0	42.7	38.6	65.8	.1811	34.3
6	39.9	37.2	75.8	.1870	34.4	40.5	37.3	72.6	.1811	33.1	44.5	40.3	66.5	.1954	35.3
7	39.1	36.5	76.3	.1822	33.3	40.8	37.3	69.4	.1774	32.1	43.7	39.8	68.4	.1948	36.3
8	37.5	35.0	76.2	.1710	32.4	41.0	37.3	67.8	.1748	32.0	43.2	38.1	58.2	.1636	32.0
9	37.8	35.8	81.0	.1844	33.3	40.7	37.3	70.2	.1785	32.1	43.5	37.4	64.8	.1703	31.9
10	37.2	35.1	79.8	.1775	32.2	38.3	36.4	84.0	.1930	33.3	44.5	39.9	63.4	.1867	34.2
11	+37.4	+35.4	80.9	0.1812	+32.4	+39.5	+36.4	72.0	0.1749	+32.0	+41.4	+37.8	69.0	0.1801	+33.1
Means.			78.80	0.1765	+32.22			76.46	0.1793	+32.20			65.83	0.1782	+33.1

AUGUST, 1872.

Day.	10.					11.					12.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	+39.6	+36.5	72.1	0.1757	+33.1	+35.7	+33.7	80.1	0.1676	+31.0	+33.5	+31.4	80.2	0.1518	+27.0
1	37.5	34.8	74.3	.1668	30.9	33.5	31.9	83.7	.1569	28.5	33.1	31.0	79.8	.1509	27.0
2	37.3	34.7	75.1	.1673	30.7	32.8	31.1	83.4	.1560	27.0	32.1	30.3	81.3	.1476	27.1
3	39.4	36.5	73.7	.1783	33.1	36.7	35.4	87.3	.1903	32.2	37.1	35.3	82.6	.1825	33.5
4	42.5	39.8	77.2	.2106	36.4	40.4	38.0	78.7	.1978	35.4	38.8	37.1	84.2	.1993	34.3
5	44.7	41.1	71.4	.2107	36.5	46.7	44.6	83.3	.2673	42.8	42.5	40.0	78.9	.2150	36.4
6	43.2	39.8	71.8	.2010	36.4	42.7	40.8	84.0	.2308	38.6	40.1	37.0	72.4	.1797	33.1
7	43.3	39.2	66.4	.1865	34.2	39.5	38.0	86.3	.2100	35.4	45.2	40.2	60.9	.1840	34.2
8	42.6	38.3	64.0	.1758	33.1	44.7	40.3	65.0	.1928	35.3	43.2	39.0	65.4	.1834	34.1
9	43.7	38.1	54.9	.1566	30.9	46.5	41.0	58.5	.1850	34.3	43.5	38.9	62.4	.1768	33.1
10	43.1	37.8	56.3	.1583	32.0	47.5	42.2	60.7	.2001	36.4	46.4	41.5	62.8	.1988	36.4
11	42.8	37.8	58.5	.1622	32.1	46.7	41.9	63.6	.2021	34.5	45.8	40.8	61.5	.1900	35.3
Noon.	41.2	36.5	59.5	.1549	29.7	46.6	40.8	56.4	.1793	33.2	44.5	39.3	58.7	.1731	33.1
1^h	41.4	36.2	55.6	.1460	30.9	44.1	39.8	65.3	.1893	35.3	42.0	38.4	69.5	.1855	33.2
2	40.5	35.4	55.4	.1409	28.5	38.2	35.0	70.2	.1624	30.9	41.5	37.6	66.5	.1746	33.1
3	37.7	34.8	72.6	.1642	30.9	36.9	34.3	74.9	.1641	29.7	38.0	35.0	71.9	.1650	30.9
4	46.2	39.2	47.3	.1488	31.0	37.5	34.9	75.2	.1689	30.9	36.9	33.4	66.4	.1458	27.3
5	37.9	35.3	75.6	.1721	30.9	36.5	33.4	69.9	.1509	28.5	40.5	36.3	63.1	.1598	30.8
6	37.2	35.6	84.6	.1875	33.3	34.4	32.0	75.4	.1498	28.4	33.7	31.2	75.9	.1472	29.7
7	35.7	33.5	78.1	.1634	31.0	33.7	32.1	83.1	.1614	28.3	30.8	29.5	85.9	.1480	27.3
8	35.5	33.2	76.9	.1597	29.8	35.6	33.5	79.0	.1647	29.8	32.7	30.9	81.6	.1519	27.7
9	36.5	34.3	78.6	.1698	31.1	34.9	33.1	81.6	.1658	29.7	31.7	30.1	83.1	.1485	27.3
10	35.9	33.9	80.2	.1692	31.0	33.8	31.8	80.6	.1529	27.0	31.9	30.3	83.2	.1499	27.5
11	+35.2	+33.0	77.8	0.1594	+29.8	+34.2	+32.0	77.2	0.1524	+28.5	+30.7	+29.2	83.7	0.1435	+26.5
Means.			69.08	0.1702	+31.97			75.16	0.1799	+32.15			73.41	0.1689	+30.91

AUGUST, 1872.

Day.	13.					14.					15.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	+30.7	+29.2	83.7	0.1435	+26.5	+30.7	+29.2	83.7	0.1435	+26.5	+33.2	+31.6	83.8	0.1592	+29.0
1	30.3	29.0	85.7	.1446	26.7	30.7	29.0	81.5	.1397	25.9	31.0	29.4	82.8	.1437	26.5
2	30.4	29.1	85.8	.1453	26.9	33.1	31.7	85.7	.1623	29.4	29.4	28.2	86.3	.1404	26.0
3	31.7	30.2	84.2	.1504	27.6	31.5	30.3	87.3	.1547	28.3	29.7	29.1	93.2	.1533	28.1
4	36.7	35.0	83.5	.1814	33.4	31.8	30.8	89.4	.1604	29.1	30.2	29.3	89.1	.1492	27.6
5	36.9	35.4	85.4	.1872	33.2	32.9	31.6	86.6	.1629	29.5	30.7	29.4	85.9	.1473	27.2
6	34.6	32.3	76.5	.1532	27.9	34.7	32.6	78.5	.1579	28.5	31.7	30.6	88.4	.1580	28.8
7	37.8	36.0	83.8	.1894	33.6	37.3	35.0	78.0	.1741	32.2	32.6	31.3	86.6	.1607	29.1
8	40.9	37.1	67.0	.1729	33.1	35.6	33.1	75.1	.1567	28.6	34.0	32.9	88.5	.1730	29.9
9	38.7	36.1	76.1	.1786	34.5	36.0	33.9	79.2	.1679	31.0	34.3	33.0	86.6	.1711	31.1
10	38.2	35.0	70.2	.1624	33.4	37.1	34.1	71.3	.1578	29.7	34.7	33.1	83.6	.1684	30.8
11	37.2	34.8	76.9	.1712	30.9	36.8	34.5	77.1	.1701	32.2	39.9	38.0	82.9	.2048	35.3
Noon.	37.5	35.2	78.0	.1757	32.1	37.0	34.0	71.2	.1570	29.7	36.7	34.6	79.6	.1733	31.0
1^h	43.4	40.3	74.5	.2097	35.9	36.1	33.5	74.4	.1582	28.5	36.3	34.3	80.4	.1724	30.9
2	44.5	40.0	64.1	.1890	34.8	34.5	32.4	78.4	.1565	28.6	35.7	33.7	80.1	.1676	29.8
3	41.7	38.5	72.5	.1919	34.2	35.5	33.4	78.9	.1639	29.8	35.3	33.7	83.8	.1726	29.7
4	38.7	36.5	79.2	.1874	33.2	35.4	33.5	80.9	.1673	31.0	35.7	34.0	83.0	.1734	32.3
5	33.5	31.5	80.4	.1543	27.7	34.7	33.0	82.6	.1664	29.8	35.2	34.0	87.8	.1804	31.8
6	34.2	32.0	77.3	.1524	28.1	35.7	34.0	83.0	.1734	30.9	37.1	35.3	82.6	.1825	32.1
7	34.2	32.2	79.3	.1564	28.8	35.5	33.8	82.9	.1720	29.9	36.7	34.7	80.6	.1756	30.9
8	32.6	30.8	81.5	.1511	27.6	35.8	34.0	82.1	.1721	30.3	36.0	34.1	81.1	.1716	29.9
9	33.2	31.8	85.8	.1646	29.5	36.2	34.5	83.2	.1774	30.7	34.8	33.2	83.6	.1691	31.1
10	31.2	29.4	80.7	.1413	26.1	35.5	33.6	80.9	.1680	31.1	34.0	32.1	80.2	.1575	29.8
11	+31.6	+29.9	82.0	0.1460	+26.8	+34.7	+33.1	83.5	0.1684	+31.0	+33.2	+31.4	81.8	0.1536	+28.3
Means.			78.92	0.1667	+30.52			80.64	0.1629	+29.76			84.26	0.1659	+29.88

Day.	AUGUST, 1872.														
	16.					17.					18.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+32.6	+31.2	85.6	0.1588	+28.8	+31.7	+31.0	92.6	0.1655	+29.9	+31.5	+29.6	79.8	0.1415	+26.0
1	33.7	32.7	89.4	.1729	29.9	32.3	31.5	91.6	.1681	30.2	30.9	29.0	79.4	.1373	25.4
2	32.6	31.3	86.6	.1607	29.1	30.9	30.0	90.3	.1560	28.5	31.1	29.5	82.8	.1444	26.6
3	32.7	31.8	90.7	.1691	30.4	31.1	30.4	92.5	.1612	29.3	30.9	29.2	81.7	.1411	26 1
4	33.6	32.1	84.1	.1627	29.8	32.6	31.8	91.7	.1703	30.5	30.9	29.2	81.7	.1411	26.1
5	33.7	32.3	85.2	.1649	29.7	33.2	32.2	89.3	.1694	30.1	31.5	29.8	82.0	.1453	26.7
6	34.7	33.3	85.6	.1722	31.2	33.5	32.7	91.5	.1760	30.8	31.8	30.1	82.1	.1473	27.1
7	35.7	34.5	87.9	.1844	33.5	33.9	33.0	90.5	.1768	31.1	32.2	30.6	83.4	.1520	27.8
8	38.9	36.8	80.6	.1911	34.3	34.4	33.0	85.5	.1698	31.0	33.2	31.4	81.8	.1556	28.3
9	35.6	33.5	79.1	.1647	31.0	35.0	33.0	79.7	.1620	29.8	31.1	28.9	78.6	.1318	25.3
10	37.7	35.8	81.6	.1852	33.3	34.0	32.3	82.2	.1615	28.6	40.6	37.0	68.4	.1734	32.3
11	36.7	34.8	81.4	.1772	32.2	34.4	31.8	75.7	.1461	25.6	43.7	39.9	69.0	.1971	34.3
Noon.	36.0	34.4	84.2	.1779	31.0	36.7	34.5	78.6	.1714	31.0	45.2	41.0	67.0	.2024	36.2
1h	35.1	33.8	86.7	.1775	32.4	36.9	35.0	81.6	.1788	32.1	44.8	41.3	72.2	.2140	36.7
2	34.9	33.2	82.7	.1678	29.8	37.0	33.8	68.5	.1528	28.5	42.8	38.8	66.7	.1842	33.6
3	33.9	32.5	85.3	.1665	31.2	36.4	33.2	68.0	.1480	28.9	43.5	39.4	66.5	.1883	34.5
4	33.1	32.0	88.3	.1667	30.0	35.8	32.4	66.5	.1396	27.1	42.5	38.3	64.8	.1774	33.1
5	32.8	31.8	89.7	.1679	30.2	35.8	32.8	70.4	.1476	27.0	43.7	39.4	65.0	.1857	33.7
6	32.4	31.3	88.6	.1629	29.5	35.0	32.1	70.8	.1445	27.2	41.5	37.3	64.0	.1681	32.0
7	32.2	31.2	89.5	.1684	29.5	34.5	31.6	75.8	.1459	29.1	38.9	35.5	68.9	.1638	29.8
8	32.6	31.5	88.6	.1644	29.7	33.2	31.6	83.8	.1592	29.0	35.7	32.9	72.1	.1514	26.1
9	32.5	31.5	89.6	.1656	29.9	33.5	31.1	75.4	.1448	27.2	33.5	31.1	75.4	.1443	28.4
10	32.0	30.9	88.5	.1601	29.1	32.2	30.6	83.4	.1520	27.8	32.4	30.3	80.0	.1518	25.6
11	+31.2	+30.5	92.5	0.1619	+29.4	+31.6	+29.9	82.0	0.1460	+26.8	+29.8	+28.0	80.0	0.1320	+24.5
Means.			86.33	0.1696	+30.54			81.58	0.1589	+29.05			74.72	0.1605	+29.43

Day.	AUGUST, 1872.														
	19.					20.					21.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+29.5	+27.5	77.9	0.1270	+24.2	+34.2	+33.0	87.5	0.1724	+31.1	+33.6	+32.1	84.1	0.1627	+29.9
1	29.0	27.3	80.7	.1287	23.9	34.1	32.7	85.0	.1677	29.2	33.5	32.0	84.1	.1620	30.0
2	28.9	27.2	80.6	.1281	23.8	34.3	33.0	86.5	.1711	31.5	33.9	32.7	87.3	.1703	29.8
3	29.2	27.5	80.8	.1299	24.1	33.7	32.6	88.4	.1709	30.1	32.4	31.0	85.5	.1573	28.6
4	29.5	28.0	83.1	.1355	25.2	33.6	32.3	86.3	.1662	29.9	33.1	31.7	85.7	.1623	29.4
5	30.5	28.8	81.5	.1384	25.6	33.7	32.0	82.2	.1594	28.9	34.0	32.5	84.3	.1655	29.9
6	31.4	29.3	79.7	.1394	25.7	34.5	32.8	80.5	.1650	29.7	34.6	33.3	86.6	.1735	31.1
7	32.5	30.5	79.7	.1470	25.6	36.5	35.0	85.3	.1840	32.9	36.5	35.0	85.3	.1840	33.4
8	34.5	32.2	76.5	.1525	28.5	35.7	34.4	87.0	.1823	32.3	39.0	37.5	86.2	.2055	35.5
9	34.1	31.8	76.3	.1523	27.1	36.5	35.0	85.3	.1840	32.9	44.6	43.2	88.6	.2610	41.8
10	35.5	32.9	74.0	.1540	28.5	37.4	35.6	82.7	.1849	33.2	48.0	46.1	85.7	.2870	44.9
11	39.2	36.5	75.4	.1809	32.0	35.7	34.2	85.0	.1776	32.5	43.7	39.5	65.8	.1879	35.3
Noon.	40.9	37.8	72.8	.1869	32.2	36.2	34.7	85.2	.1816	32.4	42.6	39.4	73.1	.2000	35.2
1h	41.7	38.6	73.4	.1921	34.2	36.1	34.6	85.1	.1808	32.4	42.8	39.5	72.4	.1996	35.2
2	39.7	36.8	73.9	.1810	34.4	36.1	34.6	85.1	.1808	32.4	40.4	37.2	71.7	.1802	33.1
3	35.5	34.0	84.9	.1760	32.3	36.7	35.0	83.5	.1814	32.9	37.3	34.0	68.6	.1531	29.6
4	43.0	41.2	84.9	.2359	39.7	36.2	34.3	81.2	.1732	32.5	34.8	33.1	82.6	.1671	31.1
5	43.7	40.8	76.3	.2170	36.5	41.9	39.0	75.2	.2008	37.3	33.2	31.8	85.8	.1631	29.5
6	41.5	38.0	69.9	.1830	34.3	37.9	35.8	80.1	.1831	32.4	35.5	33.8	82.9	.1720	31.0
7	34.9	32.7	77.7	.1573	28.6	35.8	34.0	82.1	.1721	31.3	33.2	31.8	85.8	.1631	29.5
8	36.9	34.0	72.1	.1578	29.8	34.5	32.8	82.5	.1653	29.4	32.1	30.9	87.4	.1594	28.9
9	34.5	33.0	84.5	.1690	30.5	33.5	32.1	85.2	.1635	29.7	31.7	30.5	87.3	.1560	28.4
10	33.5	32.1	85.2	.1635	28.9	33.6	31.8	82.0	.1584	28.7	31.6	30.2	85.2	.1516	27.8
11	+35.5	+34.0	84.9	0.1760	+31.6	+32.2	+31.1	88.5	0.1615	+29.3	+31.5	+30.2	86.2	0.1528	+28.0
Means.			78.61	0.1629	+29.51			84.06	0.1744	+31.45			82.42	0.1790	+31.95

AUGUST, 1872.

Day.	22.					23.					24.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+31.2	+30.0	87.1	0.1525	+27.9	+33.9	+33.0	90.7	0.1768	+32.9	+29.0	+28.1	89.7	0.1431	+26.5
1	30.5	29.0	83.6	.1421	26.3	33.7	32.4	86.3	.1669	31.6	28.0	27.2	90.5	.1386	25.7
2	31.0	30.0	89.2	.1548	28.3	33.7	32.8	90.6	.1754	31.5	28.5	27.6	89.5	.1400	25.9
3	32.4	31.0	85.5	.1573	28.6	33.7	32.8	90.6	.1754	31.5	29.3	28.4	89.8	.1451	26.9
4	32.5	31.2	86.5	.1600	29.0	33.7	32.8	90.6	.1754	31.5	29.6	28.7	89.9	.1471	27.1
5	33.1	31.8	86.7	.1643	29.7	33.5	32.8	92.6	.1780	31.4	30.6	29.8	91.2	.1559	28.4
6	33.4	32.0	85.8	.1646	29.7	34.0	33.2	91.6	.1795	31.1	33.1	32.2	90.4	.1712	30.2
7	33.6	32.4	87.3	.1682	30.0	33.9	33.0	90.6	.1768	31.2	35.7	34.8	94.9	.1902	32.5
8	34.4	33.1	86.5	.1719	31.2	36.1	35.0	89.1	.1897	33.5	37.5	35.5	80.9	.1820	32.1
9	35.7	34.2	85.0	.1776	32.3	35.8	34.7	89.0	.1873	33.2	38.6	37.1	86.0	.2019	35.5
10	36.2	34.7	85.2	.1815	32.2	36.3	34.8	85.2	.1824	32.3	40.7	39.8	92.0	.2340	37.6
11	35.0	33.7	86.7	.1767	31.1	37.5	35.4	80.0	.1799	31.0	38.7	36.2	76.9	.1803	33.2
Noon.	34.7	32.5	77.6	.1559	28.5	37.8	35.3	76.4	.1734	32.1	37.4	35.3	79.9	.1791	32.1
1h	33.9	33.0	90.6	.1768	21.9	38.0	36.0	81.1	.1860	33.3	38.3	35.8	76.7	.1774	32.0
2	34.0	33.2	91.6	.1795	33.0	38.0	35.7	78.3	.1797	32.1	39.0	36.3	75.3	.1791	33.1
3	34.0	33.2	91.6	.1795	33.0	36.2	34.4	82.3	.1753	31.1	39.0	36.0	72.6	.1730	32.0
4	34.5	33.8	92.8	.1850	33.8	36.0	34.1	81.1	.1716	31.0	36.4	34.2	78.5	.1690	30.9
5	34.6	33.8	91.8	.1837	33.9	36.1	34.1	80.3	.1708	31.0	35.7	33.6	79.1	.1658	29.8
6	34.5	33.8	92.8	.1850	33.8	35.4	33.6	81.8	.1693	31.1	34.1	32.2	81.3	.1582	28.6
7	34.1	33.2	90.7	.1782	31.1	34.0	32.6	80.4	.1670	31.7	32.2	30.5	83.1	.1586	27.5
8	33.9	33.2	92.7	.1808	31.0	33.1	31.9	87.7	.1662	29.9	31.2	29.8	85.0	.1490	27.4
9	34.1	33.3	91.7	.1802	31.3	32.1	31.0	88.5	.1608	29.2	30.0	28.6	84.5	.1408	26.1
10	33.8	33.1	92.7	.1801	31.0	30.7	29.7	89.2	.1528	28.0	28.7	27.3	83.9	.1324	24.7
11	+33.8	+33.1	92.7	0.1801	+31.0	+29.6	+28.7	89.9	0.1471	+27.1	+27.6	+26.5	86.9	0.1308	+28.4
Means.			88.52	0.1715	+30.40			85.58	0.1735	+31.26			84.52	0.1643	+29.72

AUGUST, 1872.

Day.	25.					26.					27.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0h	+26.2	+25.5	91.3	0.1294	+24.1	+25.4	+24.6	89.8	0.1230	+22.9	+31.4	+30.3	88.4	0.1558	+28.5
1	26.4	25.6	90.1	.1288	24.0	25.5	24.8	91.1	.1253	23.4	29.9	28.8	87.7	.1454	26.8
2	26.9	26.1	90.2	.1318	24.6	26.5	25.8	91.4	.1312	24.4	29.5	28.8	92.1	.1501	27.6
3	27.0	26.3	91.6	.1342	25.0	27.7	26.9	90.5	.1367	25.4	28.2	27.2	88.3	.1362	25.3
4	27.0	26.1	89.1	.1307	24.3	26.1	25.3	90.0	.1270	23.7	29.1	28.1	88.5	.1420	26.3
5	27.8	27.0	90.5	.1373	25.5	26.8	26.0	90.2	.1312	24.4	30.7	29.8	90.3	.1547	28.3
6	32.4	31.5	90.6	.1669	30.1	27.9	27.0	89.4	.1362	25.3	32.1	30.9	87.4	.1594	28.9
7	32.9	32.1	92.4	.1731	31.9	29.4	28.5	89.8	.1457	27.0	33.5	32.2	86.2	.1655	29.9
8	36.9	35.7	88.3	.1892	32.4	31.0	29.9	88.2	.1531	28.0	36.0	34.5	85.1	.1800	32.3
9	38.2	36.8	86.7	.2002	33.4	31.6	30.5	88.4	.1573	28.7	35.7	33.9	86.8	.1714	31.1
10	42.6	41.3	89.2	.2431	38.7	32.6	31.4	87.6	.1624	29.4	36.9	34.9	80.7	.1772	32.2
11	44.2	41.8	80.4	.2338	32.2	33.7	32.3	85.3	.1649	29.8	38.1	36.5	84.6	.1952	34.4
Noon.	38.5	35.8	75.0	.1748	30.9	32.4	31.2	87.5	.1610	29.2	39.4	37.3	80.8	.1954	35.5
1h	41.4	38.8	77.5	.2027	36.4	33.0	32.0	89.7	.1693	30.4	38.2	36.4	83.1	.1917	34.5
2	36.7	34.3	76.7	.1672	29.9	34.5	33.3	87.6	.1748	31.3	39.9	38.3	85.5	.2114	36.6
3	35.9	33.8	79.2	.1671	29.8	34.8	33.4	85.5	.1730	31.4	39.4	37.7	80.4	.2047	35.5
4	32.7	31.9	91.7	.1710	30.6	35.3	33.9	85.7	.1770	31.9	39.2	38.0	88.9	.2134	36.4
5	32.2	30.8	85.5	.1558	28.4	35.6	34.4	88.0	.1836	31.1	39.8	38.0	83.7	.2061	36.6
6	31.9	30.5	85.4	.1537	28.1	35.5	34.0	84.9	.1760	32.3	40.1	38.0	81.2	.2017	35.5
7	30.4	29.2	86.8	.1471	27.0	33.9	32.4	84.3	.1648	31.7	35.9	34.6	87.0	.1839	33.5
8	29.2	28.1	87.5	.1409	26.1	35.0	33.1	80.7	.1645	31.1	31.0	29.0	86.8	.1450	24.4
9	28.7	27.5	86.1	.1382	25.3	31.9	30.6	86.4	.1556	28.4	30.2	29.0	86.7	.1457	26.8
10	28.2	27.2	88.3	.1362	25.3	32.0	30.4	87.4	.1557	28.5	28.9	27.9	88.5	.1407	26.0
11	+26.5	+25.5	87.6	0.1259	+23.5	+31.4	+30.3	88.4	0.1558	+28.5	+28.2	+27.4	90.6	0.1399	+25.9
Means.			86.57	0.1616	+28.65			87.82	0.1544	+28.26			86.23	0.1714	+30.78

Day.	AUGUST, 1872.									
	28.					29.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	+27.7	+27.0	91.7	0.1385	+25.7	+28.7	+27.5	86.1	0.1382	+25.3
1	27.5	26.8	91.7	.1372	25.5	28.3	27.3	88.3	.1368	25.4
2	27.5	26.8	91.7	.1372	25.5	28.2	27.2	88.2	.1362	25.3
3	28.2	27.5	91.8	.1418	26.2	28.3	27.3	88.3	.1368	25.4
4	27.7	27.0	91.7	.1385	25.7	28.6	27.6	88.4	.1410	25.9
5	27.9	27.2	91.7	.1398	25.9	29.0	28.0	88.5	.1413	26.1
6	29.8	29.1	92.2	.1522	27.8	30.3	29.1	86.8	.1464	26.9
7	29.9	29.1	91.0	.1510	27.7	32.3	31.0	86.5	.1585	28.8
8	33.2	32.1	88.3	.1674	29.9	30.5	29.8	92.3	.1571	28.6
9	33.9	32.8	88.5	.1730	29.8	31.9	30.9	89.5	.1611	29.2
10	36.0	34.2	82.2	.1737	32.3	33.6	32.3	86.3	.1662	17.3
11	36.7	34.9	82.4	.1793	32.3	33.6	32.2	85.3	.1642	16.2
Noon.	38.7	37.5	88.8	.2089	35.5	35.5	32.2	67.3	.1395	22.6
1^h	40.0	39.0	91.0	.2250	37.7	37.0	35.8	88.3	.1948	22.5
2	40.7	39.5	89.3	.2274	36.7	40.0	38.0	82.0	.2030	19.9
3	42.4	41.5	92.4	.2503	40.9	38.4	37.0	86.9	.2018	22.4
4	40.0	38.6	87.4	.2162	36.6	37.1	35.8	87.4	.1935	21.7
5	40.0	38.8	89.1	.2206	36.7	38.4	37.0	86.9	.2018	23.4
6	35.9	34.8	89.1	.1881	32.3	39.3	37.5	83.5	.2016	20.5
7	33.6	32.5	88.4	.1702	29.9	31.8	30.1	85.4	.1781	11.1
8	32.4	31.3	88.6	.1629	29.5	31.5	30.3	27.3	.1547	28.3
9	31.7	30.2	87.7	.1548	27.2	31.0	29.9	87.1	.1518	27.8
10	30.2	29.0	86.7	.1457	26.8	30.7	29.1	86.2	.1443	11.2
11	+30.1	+28.9	86.6	0.1450	+26.7	+29.1	+27.8	85.2	0.1368	+25.4
Means.			89.17	0.1727	+30.45			86.17	0.1619	+23.22

Day.	AUGUST, 1872.									
	30.					31.				
Hour.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
0^h	+26.7	+25.8	88.9	0.1289	+24.0	+31.3	+30.2	88.2	0.1552	+28.4
1	25.5	25.0	93.4	.1261	23.0	31.9	31.0	90.5	.1631	29.5
2	27.5	26.8	91.7	.1372	25.5	31.8	31.0	91.5	.1643	29.7
3	27.7	26.8	89.4	.1349	25.1	32.2	31.3	90.6	.1654	29.9
4	25.7	24.9	89.9	.1247	23.2	32.7	31.8	90.7	.1691	30.4
5	27.0	26.2	90.2	.1324	24.8	32.5	31.5	89.6	.1656	29.9
6	27.9	27.0	89.4	.1362	25.3	32.8	32.0	91.7	.1717	30.7
7	28.9	28.2	91.9	.1462	26.9	33.7	32.9	91.6	.1774	22.7
8	30.1	28.9	86.7	.1450	26.5	33.9	33.0	90.6	.1768	21.9
9	30.8	29.8	89.2	.1535	28.1	33.7	32.9	91.6	.1774	22.7
10	31.5	30.1	85.2	.1509	27.7	33.8	33.0	91.6	.1781	22.9
11	34.5	32.9	83.5	.1670	15.5	36.4	34.9	85.3	.1832	18.9
Noon.	37.7	36.3	86.6	.1962	21.2	35.7	34.5	88.0	.1844	20.9
1^h	36.4	34.9	85.3	.1832	19.0	35.9	34.7	88.1	.1858	21.2
2	41.0	39.4	85.9	.2213	23.7	35.7	34.4	87.0	.1819	19.9
3	39.1	38.0	89.9	.2147	26.1	36.7	35.3	86.3	.1882	20.3
4	33.6	32.0	83.1	.1607	14.4	36.9	35.8	89.3	.1961	23.5
5	32.5	31.2	86.5	.1600	29.0	36.9	35.1	82.5	.1809	17.3
6	35.2	33.5	82.8	.1854	15.6	35.7	34.3	86.0	.1802	19.0
7	34.7	33.0	82.6	.1664	15.0	34.4	33.0	85.9	.1698	17.3
8	32.0	30.5	83.6	.1552	13.2	33.8	32.7	88.4	.1716	19.7
9	30.5	29.1	84.7	.1441	26.6	32.5	31.5	89.6	.1657	29.9
10	30.6	29.3	85.9	.1467	27.1	32.7	31.9	91.7	.1710	30.6
11	+30.7	+29.4	85.9	0.1473	+27.2	+33.0	+32.1	90.4	0.1705	+20.8
Means.			86.76	0.1568	+23.07			89.03	0.1747	+24.08

FORCE OF VAPOR.

The following two tables contain the daily and hourly means of the force of vapor extracted from the preceding record:

Daily means of force of vapor observed at Polaris Bay.

Day of month.	1871. September.	1871. October.	1871. November.	1871. December.	1872. January.	1872. February.	1872. March.	1872. April.	1872. May.	1872. June.	1872. July.	1872. August.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
1	0.11370	0.06720	0.06900	0.01682	0.00478	0.00748	0.00294	0.03615	0.03208	0.13394	0.17105	0.18347
2	.12900	.06720	.06900	.01711	.00886	.00548	.00204	.02120	.04553	.15540	.15765	.19268
3	.13170	.06720	.06900	.01686	.00900	.00816	.00231	.01272	.04320	.15947	.18996	.18905
4	.13170	.06720	.06900	.02497	.00540	.00480	.00402	.01737	.03262	.15477	.17300	.18455
5	.11391	.06720	.06900	.04711	.00538	.00588	.01140	.02299	.03184	.14049	.17300	.17019
6	.11390	.06720	.06994	.01972	.00385	.00555	.00745	.02094	.04605	.16788	.17300	.16673
7	.11750	.06720	.06212	.00844	.00327	.00647	.00233	.02346	.05065	.18245	.17300	.17653
8	.12026	.06720	.04922	.00705	.00323	.00745	.00207	.02764	.05604	.17456	.17300	.17927
9	.10537	.06720	.06157	.01601	.00199	.00865	.00085	.02677	.06560	.15257	.17300	.17821
10	.10400	.06720	.05813	.04121	.00543	.00928	.00299	.01114	.06307	.15169	.17300	.17024
11	.07500	.06720	.04089	.02253	.00399	.01131	.00299	.01528	.05457	.15333	.17300	.17994
12	.08113	.06720	.04128	.01256	.00304	.01052	.00280	.00921	.05814	.14123	.19226	.16885
13	.08260	.06720	.02129	.01165	.00358	.01494	.00523	.01253	.06985	.14603	.18597	.16666
14	.08680	.06720	.01854	.01842	.00505	.00449	.00448	.00906	.08776	.14440	.18732	.16826
15	.11660	.06720	.01335	.01195	.00740	.00220	.00568	.01280	.09883	.16275	.19027	.16587
16	.10370	.06720	.01801	.00950	.00889	.00448	.00799	.01219	.09905	.13343	.19651	.16960
17	.07690	.06720	.02817	.01211	.00470	.00654	.01089	.01166	.08962	.15265	.18440	.15889
18	.11610	.06720	.03365	.00747	.00329	.03148	.00872	.01180	.09320	.15360	.18487	.16047
19	.09890	.06720	.02006	.02329	.00523	.01492	.01219	.01952	.10283	.15602	.18445	.16288
20	.14350	.06720	.01017	.01381	.01533	.00526	.01425	.01771	.11015	.14576	.18899	.17457
21	.15790	.06720	.00760	.00783	.02846	.00434	.00636	.04557	.13090	.14342	.18879	.17904
22	.14210	.06720	.00760	.00748	.03560	.00282	.00672	.07850	.13006	.14219	.21439	.17151
23	.11030	.06720	.00760	.00468	.01587	.00313	.00740	.07331	.12370	.16192	.21582	.17348
24	.10673	.06720	.00758	.00412	.00950	.00355	.01063	.06577	.13303	.15494	.20754	.16128
25	.09824	.06720	.00704	.00424	.00853	.01480	.01049	.03408	.13558	.16291	.20570	.16163
26	.08015	.06720	.00851	.00588	.00950	.01566	.02201	.03562	.12652	.16572	.21410	.15438
27	.12010	.06720	.00685	.00530	.00552	.00747	.03873	.03396	.10816	.14920	.22551	.17135
28	.14188	.06720	.02903	.00571	.00482	.01085	.03957	.03683	.10460	.16050	.19347	.17270
29	.09510	.06720	.04215	.00794	.01117	0.00908	.01974	.04962	.09616	.16928	.19960	.16190
30	0.07270	.06720	0.03426	.00816	.02068	-------	.03660	0.03798	.10617	0.17212	.18689	.15684
31	-------	0.06720	-------	0.00697	0.01896	-------	0.02190	-------	0.11197	-------	0.18446	0.17472
Means.	0.10955	0.06720	0.03500	0.01377	0.00904	0.00866	0.01076	0.02803	0.08509	0.15455	0.18819	0.17110

Hourly means of force of vapor observed at Polaris Bay.

Hours.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.
0^h	0.10949	0.06720	0.03451	0.01684	0.00884	0.00853	0.01029	0.02464	0.07265	0.15113	0.18570	0.15799
1	.10949	.06720	.03668	.01433	.00823	.00913	.01009	.02405	.07416	.15170	.18350	.15653
2	.10949	.06720	.03651	.01478	.00863	.00979	.01006	.02401	.07480	.15254	.18597	.15791
3	.10949	.06720	.03541	.01459	.00876	.01002	.00963	.02410	.07770	.15504	.18705	.16177
4	.10949	.06720	.03489	.01490	.00821	.00969	.00913	.02619	.07865	.15366	.18802	.16700
5	.10949	.06720	.03441	.01479	.00876	.00943	.00892	.02337	.08198	.15574	.18771	.17143
6	.10949	.06720	.03476	.01505	.00870	.00946	.00976	.02803	.08483	.15472	.19063	.17153
7	.11218	.06720	.03469	.01472	.00863	.00898	.01009	.02842	.08636	.15195	.19149	.17672
8	.10949	.06720	.03459	.01398	.00919	.00932	.01103	.03083	.08889	.15436	.19436	.17654
9	.10949	.06720	.03507	.01377	.00922	.00918	.01195	.03099	.09143	.15178	.18989	.17677
10	.10949	.06720	.03430	.01344	.00873	.00917	.01215	.03188	.09249	.15335	.19095	.18337
11	.10949	.06720	.03376	.01346	.00893	.00837	.01193	.03178	.09414	.15103	.19180	.17727
Noon.	.10949	.06720	.03392	.01348	.00921	.00854	.01223	.03296	.09368	.15625	.18941	.17719
1^h	.10949	.06720	.03302	.01343	.00908	.00776	.01233	.03169	.09503	.15789	.18972	.18115
2	.10949	.06720	.03581	.01304	.00904	.00802	.01142	.03166	.09331	.15787	.19304	.18078
3	.10849	.06720	.03505	.01264	.00950	.00838	.01155	.02994	.09261	.15918	.18945	.18055
4	.11153	.06720	.03482	.01296	.00925	.00797	.01144	.03028	.09178	.15554	.18801	.17707
5	.10949	.06720	.03327	.01272	.00936	.00801	.01093	.02936	.08771	.15728	.18657	.17466
6	.10949	.06720	.03536	.01300	.00967	.00731	.01029	.02893	.08593	.15618	.18676	.17658
7	.10949	.06720	.03539	.01304	.00902	.00783	.01064	.02664	.08384	.15269	.18664	.16940
8	.10949	.06720	.03583	.01321	.00999	.00778	.01004	.02632	.08098	.15242	.18620	.16466
9	.10949	.06720	.03665	.01263	.00940	.00832	.01054	.02591	.08122	.15566	.18623	.16371
10	.10949	.06720	.03573	.01313	.00950	.00849	.01096	.02561	.08016	.15771	.18514	.16072
11	0.10618	0.06720	0.03555	0.01256	0.00915	0.00834	0.01095	0.02520	0.07776	0.15351	0.18531	0.15915
Means.	0.10955	0.06720	0.03500	0.01377	0.00904	0.00866	0.01076	0.02803	0.08509	0.15455	0.18819	0.17110

ANNUAL FLUCTUATION OF THE FORCE OF VAPOR AT POLARIS BAY.

The following table contains the means of the force of vapor of the actual months, and also the means of the equi-intervals:

Comparison of the means of the actual months and the equi-intervals.

Months.	Mean force of vapor of actual months.	Mean force of vapor of equi-intervals.	Months.	Mean force of vapor of actual months.	Mean force of vapor of equi-intervals.
	Inches.	*Inches.*		*Inches.*	*Inches.*
January	0.0090	0.0088	July	0.1882	0.1885
February	0.0086	0.0086	August	0.1711	0.1709
March	0.0107	0.0098	September	0.1095	0.1078
April	0.0280	0.0279	October	0.0672	0.0683
May	0.0851	0.0865	November	0.0350	0.0347
June	0.1545	0.1554	December	0.0138	0.0137

Annual mean = 0.0734.

According to the preceding table the force of vapor is above the annual mean during May, June, July, August, and September, while it is below the same during the seven remaining months. The maximum force of vapor was observed in July, the minimum in February, the range being 0.1796 inches.

The observed and computed values compare as follows:

Months.	Observed.	Computed.	Difference, O.—C.
	Inches.	*Inches.*	*Inches.*
January	0.0088	0.0087	+ 0.0001
February	0.0086	0.0083	+ 0.0003
March	0.0098	0.0100	— 0.0002
April	0.0279	0.0274	+ 0.0005
May	0.0865	0.0856	+ 0.0009
June	0.1554	0.1560	— 0.0006
July	0.1885	0.1912	— 0.0027
August	0.1709	0.1663	+ 0.0046
September	0.1078	0.1125	— 0.0047
October	0.0683	0.0653	+ 0.0030
November	0.0347	0.0345	+ 0.0002
December	0.0137	0.0151	— 0.0014
Spring	0.0414	0.0410	+ 0.0004
Summer	0.1716	0.1712	+ 0.0004
Autumn	0.0703	0.0707	— 0.0004
Winter	0.0103	0.0107	— 0.0004
Year	0.0734	0.0734	± 0.0000

Probable error of year = ± 0.0002.

The analytical elements and the expression used in obtaining the above values are as follows:

n	a_n	b_n	B_n	C_n
				° ′ ″
1	— 0.067	+ 0.056	+ 0.088	230 3 51
2	+ 0.012	— 0.023	+ 0.026	27 48 54
3	— 0.003	+ 0.005	+ 0.006	213 35 58

$$F = +0.0734 + 0.088 \sin (x + 230^\circ\ 3'\ 51'') + 0.026 \sin (2x + 27^\circ\ 48'\ 54'') + 0.006 \sin (3x + 213^\circ\ 35'\ 38'')$$
$$x = 30^\circ, 60^\circ, \ldots\ldots$$

The annual fluctuation of the force of vapor is represented graphically on the plate accompanying the diurnal fluctuation during each of the different months given hereafter. In general the computed values agree closely with those observed; the greatest difference being found in September, amounting to 0.0047 inch.

An examination of the diagram mentioned, or of the above table, demonstrates that the annual curve follows the same law as made out for lower latitudes. The force of vapor is least in February, after which time it begins to increase, reaching its maximum in July; then the curve descends again in a similar manner to that of the temperature.

DIURNAL FLUCTUATION OF THE FORCE OF VAPOR AT POLARIS BAY.

The elements of the analytical expression for the diurnal fluctuation of the force of vapor were found as follows:

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 0.002192	− 0.000708	+ 0.002303	252 6 0
2	− 0.000247	− 0.000103	+ 0.000268	247 21 49
3	+ 0.000213	− 0.000105	+ 0.000238	116 17 3

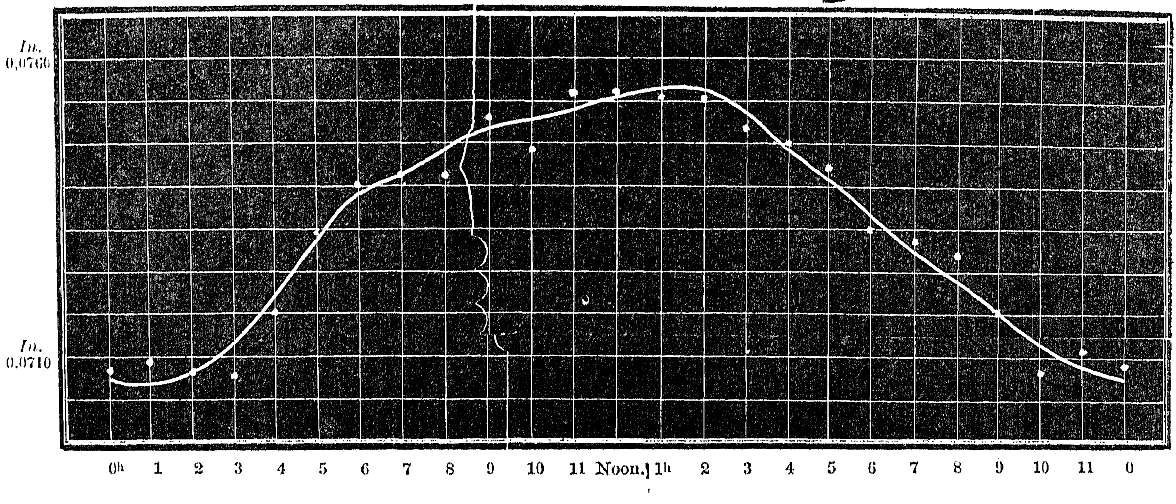
$$F = + 0.07341 + 0.002303 \sin (x + 252^\circ\, 6'\, 0'') + 0.000268 \sin (2x + 247^\circ\, 21'\, 49'') + 0.000238 \sin (3x + 116^\circ\, 17'\, 3'')$$
$$x = 15^\circ, 30^\circ \ldots .$$

The following table gives the values computed by means of the above expression and also for comparison the observed means:

Time.	Observed.	Computed.	Difference, O.—C.	Time.	Observed.	Computed.	Difference, O.—C.
	Inches.	*Inches.*	*Inches.*		*Inhes.*	*Inches.*	*Inches.*
0h	0.0706	0.0709	−0.0003	0h	0.0753	0.0754	−0.0001
1	.0704	.0708	− .0004	1	.0757	.0756	+ .0001
2	.0710	.0710	± .0000	2	.0759	.0756	+ .0003
3	.0720	.0715	+ .0005	3	.0755	.0753	+ .0002
4	.0723	.0722	+ .0001	4	.0748	.0749	− .0001
5	.0728	.0730	− .0002	5	.0741	.0743	− .0002
6	.0737	.0738	− .0001	6	.0739	.0736	+ .0003
7	.0743	.0743	± .0000	7	.0726	.0729	− .0003
8	.0750	.0746	+ .0004	8	.0720	.0724	− .0004
9	.0747	.0749	− .0002	9	.0720	.0720	± .0000
10	.0755	.0750	+ .0005	10	.0720	.0715	+ .0005
11	0.0748	0.0751	− .0003	11	0.0709	0.0712	−0.0003

Mean computed = 0.07341 inch mean observed = 0.07311 inch; difference = ± 0.0000.

The above values thrown into a curve result in the annexed diagram.



It will be noticed that the curve passes through the maximum at about $1\frac{1}{2}^h$ p. m., and through the minimum at about 1^h a. m. The computed values agree very closely with the observed ones, the difference being only shown in the fourth decimal, exceeding in no instance $0^{in}.0005$.

If we compare the thermal curve, exhibiting the diurnal fluctuation with the one in question, we shall see that their maxima and minima coincide tolerably well in regard to time, the computed maximum of temperature being reached at about 11^h a. m., while the minimum occurs at about 1^h a. m. It will be remembered that the observed thermal curve passes through the maximum at 1^h p. m., and through the minimum at midnight; showing evidently a more natural curve than the theoretical one.

Having discussed the diurnal fluctuation of the force of vapor during the year, it will be of some interest to trace the march of the curve during the different seasons. As each month was treated analytically, we thought ourselves justified in deriving the means for the seasons from the computed hourly means of the respective months without computing the values for each season, which would have involved too much labor and would hardly have changed the final results more than by four units in the fourth decimal. The curves thus obtained are represented in connection with those illustrating the march of the relative humidity given hereafter in the discussion of this latter subject.

In spring the curve shows a very regular course. The maximum, as derived from the computed monthly values, occurs at noon, while the minimum is reached at about $1\frac{1}{2}^h$ a. m. The observed maximum occurs at 11^h a. m., and the minimum at midnight. The computed range is $0^{in}.0087$ and that observed $0^{in}.0105$. According to the corresponding thermal curve both the observed and computed maxima of temperature occur at noon, the computed minimum at 2^h a. m., and the corresponding value, as observed, an hour earlier.

The summer curve is less regular than that of spring, as it shows two maxima, one of which is evidentally abnormal. The absolute maximum (observed and computed) occurs at 2^h p. m., and the secondary maximum at 8^h a. m. Both observed and computed minima are reached at 1^h a. m. The observed and computed ranges are $0^{in}.0114$ and $0^{in}.0133$, respectively. A comparison of the hygrometrical and the thermal curves shows that the maximum of temperature occurs two hours before the maximum of the force of vapor is reached, while the minima coincide very nearly in regard to time.

During autumn the computed curve passes through the absolute maximum at 10^h p. m., while the absolute minimum is reached between 11^h a. m. and noon. The differences between the observed and computed values during this season and the one following are not as great as they appear in the diagrams referred to. They actually never exceed seven units in the fourth decimal, and only appear so great on account of the large scale used in projecting the respective curves. The absolute maxima and minima, as computed, do not coincide in regard to time with those derived from the observed values; the observed curve passing the absolute maximum at 7^h a. m., and the absolute minimum being reached at 11^h p. m. The considerable difference in time between the occurrence of the actual maximum and the theoretical maximum seems to be due merely to the fact that the difference in the tension of vapor between the absolute computed maximum and the principal relative maximum, which coincides in regard to time with the one observed, amounts only to one unit in the fourth decimal. The computed thermal curve for this season exhibits two maxima, occuring at 4^h a. m. and 4^h p. m. (the latter being the absolute maximum), the corresponding minima being reached at 10^h a. m. and 10^h p. m., respectively. In general, the thermal and hygrometrical curves agree tolerably well. The range of the force of vapor, as observed, is $0^{in}.0017$, while the range derived from the computed values is $0^{in}.0005$ only.

Owing to the absence of the sun during the greater portion of winter, we can scarcely expect a regular curve for this season, especially as our observations extend over but a comparatively short period of time. It will be seen that neither the time of the absolute maximum nor that of the absolute minimum is well established. The highest computed tension of vapor occurring during the day is $0^{in}.0111$, it being reached at 3^h and 5^h a. m.; the lowest is $0^{in}.0100$, to be found during three consecutive hours, viz, at 3^h, 4^h, and 5^h p. m. The curve, derived from the observed means, passes through the absolute maximum of $0^{in}.0114$ at midnight, and through the absolute minimum of $0^{in}.0099$ at 7^h p. m. It will be remembered that the thermal curve for this season is also rather irregular,

but still there exists a certain coincidence between the maxima and minima of the temperature and those of the force of vapor; the thermal curve passing through the absolute maximum at midnight and through the absolute minimum at 6^h p. m. The range of the tension of vapor as observed is $0^{in}.0015$, while that derived from the computed means is $0^{in}.0004$ less. We shall see, hereafter, that the curves of Polaris House and of this station show a great resemblance during the season in question.

The values used in constructing the curves for the seasons are as follows:

Time.	Spring.			Summer.			Autumn.			Winter.		
	Observed.	Computed.	Difference, O.—C.	Observed.	Computed.	Difference, O.—C.	Observed.	Computed.	Difference, O.—C.	Observed.	Computed.	Difference, O.—C.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	0.0358	0.0376	—0.0018	0.1649	0.1657	—0.0008	0.0704	0.0707	—0.0003	0.0114	0.0107	—0.0007
1	.0361	.0372	.0011	.1639	.1643	— .0004	.0711	.0706	+ .0005	.0105	.0109	+ .0004
2	.0363	.0370	.0007	.1655	.1647	+ .0008	.0710	.0706	.0006	.0111	.0107	— .0004
3	.0371	.0374	.0003	.1690	.1672	.0018	.0707	.0706	+ .0001	.0111	.0111	± .0000
4	.0380	.0381	.0001	.1696	.1695	.0001	.0705	.0707	— .0002	.0109	.0109	± .0000
5	.0381	.0385	— .0004	.1716	.1715	+ .0001	.0704	.0706	.0002	.0110	.0111	+ .0001
6	.0409	.0405	+ .0004	.1723	.1725	— .0002	.0705	.0707	— .0002	.0107	.0108	.0001
7	.0416	.0417	— .0001	.1734	.1742	— .0008	.0714	.0707	+ .0007	.0108	.0109	+ .0001
8	.0436	.0430	+ .0006	.1751	.1749	+ .0002	.0705	.0706	— .0001	.0108	.0107	— .0001
9	.0448	.0442	.0006	.1728	.1748	— .0020	.0706	.0705	+ .0001	.0107	.0106	— .0001
10	.0455	.0449	.0006	.1759	.1744	+ .0015	.0703	.0704	— .0001	.0104	.0105	+ .0001
11	.0459	.0457	.0002	.1734	.1744	— .0010	.0702	.0703	.0001	.0103	.0102	— .0001
Noon.	.0463	.0457	.0006	.1743	.1750	— .0007	.0702	.0703	.0001	.0104	.0103	— .0001
1	.0463	.0457	.0006	.1763	.1756	+ .0007	.0699	.0704	— .0005	.0101	.0102	+ .0001
2	.0455	.0450	.0005	.1772	.1757	.0015	.0708	.0705	+ .0003	.0100	.0103	+ .0003
3	.0447	.0443	.0004	.1764	.1755	+ .0009	.0706	.0707	— .0001	.0102	.0100	— .0002
4	.0445	.0435	.0010	.1735	.1750	— .0015	.0712	.0706	+ .0006	.0101	.0100	.0001
5	.0426	.0423	.0003	.1739	.1732	+ .0007	.0700	.0706	— .0006	.0101	.0100	— .0001
6	.0417	.0416	+ .0001	.1732	.1715	+ .0017	.0707	.0707	± .0000	.0100	.0103	+ .0003
7	.0403	.0408	— .0005	.1696	.1710	— .0014	.0707	.0707	± .0000	.0099	.0101	+ .0002
8	.0391	.0398	.0007	.1678	.1681	.0003	.0708	.0706	+ .0002	.0103	.0101	— .0002
9	.0392	.0393	— .0001	.1676	.1681	— .0005	.0711	.0707	+ .0004	.0101	.0102	+ .0001
10	.0389	.0387	+ .0002	.1678	.1667	+ .0011	.0708	.0708	± .0000	.0104	.0103	— .0001
11	0.0380	0.0383	—0.0003	0.1660	0.1660	±0.0000	0.0697	0.0707	—0.0010	0.0100	0.0104	+0.0004
M. & D.	0.0413	0.0413	±0.0000	0.1713	0.1713	±0.0000	0.0706	0.0706	±0.0000	0.0105	0.0105	±0.0000

NOTE.—It may be repeated that the columns headed "Computed," are not actually computed, but are merely the means of the computed values of the different months constituting the seasons.

Before proceeding to the discussion of the diurnal fluctuation during the different months, we shall give the elements and analytical expressions on which the computations are based.

January.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	+ 0.000038	— 0.000432	+ 0.000434	174 56 31
2	+ 0.000029	— 0.000222	+ 0.000224	172 19 0
3	+ 0.000052	— 0.000056	+ 0.000076	136 56 40

$$F = +0.00904 + 0.000434 \sin(x + 174^\circ 56' 31'') + 0.000224 \sin(2x + 172^\circ 19' 0'') + 0.000076 \sin(3x + 136^\circ 56' 40'')$$
$$x = 15^\circ, 30^\circ, \ldots$$

February.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	+ 0.000004	+ 0.000934	+ 0.000933	0 13 12
2	— 0.000073	+ 0.000142	+ 0.000160	332 43 43
3	— 0.000072	+ 0.000079	+ 0.000108	317 55 2

$$F = +0.00866 + 0.000933 \sin(x + 0^\circ 13' 12'') + 0.000160 \sin(2x + 332^\circ 43' 43'') + 0.000108 \sin(3x + 317^\circ 55' 2'')$$
$$x = 15^\circ, 30^\circ, \ldots$$

March.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 0.000831	− 0.000647	+ 0.001053	232 5 57
2	+ 0.000738	+ 0.000059	+ 0.000741	85 27 21
3	+ 0.000091	+ 0.000199	+ 0.000219	24 36 2

$$F = +0.0176 + 0.001053 \sin(x + 232^\circ\, 5'\, 57'') + 0.000741 \sin(2x + 85^\circ\, 27'\, 21'') + 0.000219 \sin(3x + 24^\circ\, 36'\, 2'')$$
$$x = 15^\circ, 30^\circ, \ldots.$$

April.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 0.003736	− 0.001516	+ 0.001860	247 57 14
2	+ 0.000621	− 0.000296	+ 0.000688	115 30 4
3	+ 0.000161	+ 0.000274	+ 0.000304	25 37 0

$$F = +0.02803 + 0.001860 \sin(x + 247^\circ\, 57'\, 14'') + 0.000688 \sin(2x + 115^\circ\, 30'\, 4'') + 0.000304 \sin(3x + 25^\circ\, 37'\, 0'')$$
$$x = 15^\circ, 30^\circ, \ldots..$$

May.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 0.008836	− 0.003773	+ 0.009616	246 52 35
2	+ 0.000080	− 0.000665	+ 0.000670	173 8 27
3	+ 0.000117	− 0.000441	+ 0.000456	165 4 58

$$F = 0.08509 + 0.009616 \sin(x + 246^\circ\, 52'\, 35'') + 0.000670 \sin(2x + 173^\circ\, 8'\, 27'') + 0.000456 \sin(3x + 165^\circ\, 4'\, 58')$$
$$x\ 15^\circ, 30^\circ, \ldots.$$

June.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 0.000600	− 0.001573	+ 0.001684	200 53 14
2	− 0.000486	+ 0.000925	+ 0.001048	332 16 41
3	+ 0.000898	− 0.001272	+ 0.001557	144 46 31

$$F = +0.15455 + 0.001684 \sin(x + 200^\circ\, 53'\, 14'') + 0.001048 \sin(2x + 332^\circ\, 16'\, 41'') + 0.001557 \sin(3x + 144^\circ\, 46'\, 31'')$$
$$x = 15^\circ, 30^\circ, \ldots.$$

July.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 0.003433	+ 0.000712	+ 0.003590	282 42 50
2	− 0.000267	− 0.000337	+ 0.000430	218 24 30
3	+ 0.000629	− 0.000099	+ 0.000637	98 56 3

$$F = +0.18819 + 0.003590 \sin(x + 282^\circ\, 42'\, 50'') + 0.000430 \sin(2x + 218^\circ\, 24'\, 30'') + 0.000637 \sin(3x + 98^\circ\, 56'\, 3'')$$
$$x = 15^\circ, 30^\circ, \ldots.$$

August.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 0.010716	− 0.002812	+ 0.011084	254 53 26
2	− 0.002541	− 0.001608	+ 0.002734	248 45 18
3	+ 0.000292	+ 0.000003	+ 0.000292	89 30 37

$$F = +0.17110 + 0.011084 \sin (x + 254° 53' 26'') + 0.002734 \sin (2x + 248° 45' 18'') + 0.000292 \sin (3x + 89° 30' 37'')$$
$$x = 15°, 30°, \ldots.$$

September.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	+ 0.000432	+ 0.000029	+ 0.000433	293 57 44
2	− 0.000315	− 0.000109	+ 0.000332	250 52 33
3	+ 0.000344	+ 0.000120	+ 0.000365	70 45 43

$$F = +0.10955 + 0.000433 \sin (x + 293° 57' 44'') + 0.000332 \sin (2x + 250° 52' 33'') + 0.000365 \sin (3x + 70° 45' 43'')$$
$$x = 15°, 30°, \ldots.$$

November.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	+ 0.000863	− 0.000065	+ 0.000865	94 17 10
2	+ 0.000074	− 0.000044	+ 0.000086	121 42 21
3	+ 0.000026	+ 0.000028	+ 0.000038	42 42 59

$$F = +0.03500 + 0.000865 \sin (x + 94° 17' 10'') + 0.000086 \sin (2x + 121° 42' 21'') + 0.000038 \sin (3x + 42° 42' 59'')$$
$$x = 15°, 30°, \ldots.$$

December.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	+ 0.000220	+ 0.001067	+ 0.001109	11 38 39
2	− 0.000088	+ 0.000261	+ 0.000275	341 21 4
3	+ 0.000032	+ 0.000126	+ 0.000130	13 58 58

$$F = +0.01377 + 0.001109 \sin (x + 11° 38' 39'') + 0.000275 \sin (2x + 341° 21' 4'') + 0.000130 \sin (3x + 13° 58' 58''$$
$$x = 15°, 30°, \ldots$$

The values computed by means of the preceding expressions compare as follows with those actually observed. October was omitted because it had to be interpolated from September and November.

Time.	January.			February.			March.			April.		
	Observed.	Computed.	Difference, O.—C.	Observed.	Computed.	Difference, O.—C.	Observed.	Computed.	Difference, O.—C.	Observed.	Computed.	Difference, O.—C.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	0.0088	0.0088	±0.0000	0.0085	0.0089	—0.0004	0.0103	0.0107	—0.0004	0.0246	0.0268	—0.0022
1	.0082	.0088	— .0006	.0091	.0093	— .0002	.0101	.0103	— .0002	.0240	.0265	.0025
2	.0086	.0084	+ .0002	.0098	.0095	+ .0003	.0101	.0100	+ .0001	.0240	.0260	.0020
3	.0088	.0084	+ .0004	.0100	.0097	+ .0003	.0096	.0096	± .0000	.0241	.0258	— .0017
4	.0082	.0085	— .0003	.0097	.0097	± .0000	.0091	.0092	— .0001	.0262	.0260	+ .0012
5	.0088	.0090	.0002	.0094	.0096	— .0002	.0089	.0091	— .0002	.0234	.0265	— .0031
6	.0087	.0088	.0001	.0095	.0095	± .0000	.0098	.0096	+ .0002	.0280	.0273	+ .0007
7	.0086	.0089	— .0003	.0090	.0094	— .0004	.0101	.0102	— .0001	.0284	.0283	.0001
8	.0092	.0089	+ .0003	.0093	.0092	+ .0001	.0110	.0106	+ .0004	.0308	.0294	.0014
9	.0092	.0090	+ .0002	.0092	.0090	.0002	.0119	.0116	.0003	.0310	.0302	.0008
10	.0087	.0089	— .0002	.0092	.0089	+ .0003	.0122	.0119	+ .0003	.0319	.0303	.0016
11	.0089	.0086	+ .0003	.0084	.0087	— .0003	.0119	.0122	— .0003	.0318	.0303	.0015
Noon.	.0092	.0090	+ .0002	.0085	.0085	± .0000	.0122	.0122	± .0000	.0330	.0303	.0027
1^h	.0091	.0091	± .0000	.0078	.0083	— .0005	.0123	.0120	+ .0003	.0317	.0297	.0020
2	.0090	.0092	— .0002	.0080	.0080	± .0000	.0114	.0117	— .0003	.0317	.0294	.0023
3	.0095	.0093	+ .0002	.0084	.0079	+ .0005	.0115	.0115	± .0000	.0299	.0290	.0009
4	.0093	.0093	± .0000	.0080	.0079	+ .0001	.0114	.0112	+ .0002	.0303	.0288	.0015
5	.0094	.0094	± .0000	.0080	.0080	± .0000	.0109	.0109	± .0000	.0294	.0284	.0010
6	.0097	.0094	+ .0003	.0073	.0078	— .0005	.0102	.0105	— .0003	.0289	.0279	+ .0010
7	.0090	.0095	— .0005	.0078	.0079	.0001	.0106	.0104	+ .0002	.0266	.0277	— .0011
8	.0100	.0095	+ .0005	.0078	.0080	— .0002	.0100	.0104	— .0004	.0263	.0272	.0009
9	.0094	.0095	— .0001	.0083	.0080	+ .0003	.0105	.0105	± .0000	.0259	.0271	.0012
10	.0095	.0093	+ .0002	.0085	.0082	.0003	.0110	.0109	+ .0001	.0256	.0270	.0014
11	0.0092	0.0095	—0.0003	0.0083	0.0079	+0.0004	0.0109	0.0108	+0.0002	0.0252	0.0268	—0.0016
M. & D.	0.00904	0.00904	±0.0000	0.00866	0.00866	±0.0000	0.01076	0.01076	±0.0000	0.02803	0.02803	±0.0000

Time.	May.			June.			July.			August.		
	Observed.	Computed.	Difference, O.—C.	Observed.	Computed.	Difference, O.—C.	Observed.	Computed.	Difference, O.—C.	Observed.	Computed.	Difference, O.—C.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	0.0727	0.0752	—0.0025	0.1511	0.1540	—0.0029	0.1857	0.1851	+0.0006	0.1580	0.1580	±0.0000
1	.0742	.0747	.0005	.1517	.1514	+ .0003	.1835	.1843	— .0008	.1565	.1571	—0.0006
2	.0748	.0751	— .0003	.1525	.1507	.0018	.1860	.1854	+ .0004	.1579	.1579	± .0000
3	.0777	.0767	+ .0010	.1550	.1519	.0031	.1871	.1864	.0007	.1648	.1633	+ .0015
4	.0787	.0790	— .0003	.1537	.1535	.0002	.1880	.1878	+ .0002	.1670	.1671	— .0001
5	.0820	.0799	+ .0021	.1557	.1548	+ .0009	.1877	.1893	— .0016	.1714	.1704	+ .0010
6	.0848	.0844	— .0004	.1547	.1547	± .0000	.1906	.1908	— .0002	.1715	.1720	— .0005
7	.0863	.0867	.0004	.1519	.1548	— .0029	.1915	.1915	± .0000	.1767	.1763	+ .0004
8	.0889	.0891	— .0002	.1544	.1551	.0007	.1944	.1918	+ .0026	.1765	.1777	— .0012
9	.0914	.0909	+ .0005	.1518	.1543	— .0025	.1899	.1916	— .0017	.1768	.1785	— .0017
10	.0925	.0926	— .0001	.1534	.1535	± .0000	.1909	.1910	— .0001	.1797	.1788	+ .0009
11	.0941	.0946	.0005	.1510	.1534	— .0024	.1918	.1908	+ .0010	.1773	.1791	— .0018
Noon.	.0937	.0945	.0008	.1563	.1553	+ .0010	.1894	.1905	— .0011	.1772	.1793	— .0021
1^h	.0950	.0955	.0005	.1579	.1566	.0013	.1897	.1905	— .0008	.1812	.1797	+ .0015
2	.0933	.0938	— .0005	.1579	.1567	.0012	.1930	.1903	+ .0027	.1808	.1800	.0008
3	.0926	.0923	+ .0003	.1592	.1571	+ .0021	.1895	.1898	— .0003	.1806	.1796	+ .0010
4	.0918	.0904	+ .0014	.1555	.1575	— .0020	.1880	.1889	.0009	.1771	.1785	— .0014
5	.0877	.0877	± .0000	.1573	.1554	+ .0019	.1866	.1877	— .0011	.1777	.1765	+ .0012
6	.0859	.0864	— .0005	.1562	.1544	+ .0018	.1868	.1865	+ .0003	.1766	.1737	+ .0029
7	.0838	.0843	.0005	.1527	.1552	— .0025	.1866	.1857	.0009	.1694	.1721	— .0027
8	.0810	.0817	— .0007	.1524	.1529	.0005	.1862	.1852	+ .0010	.1647	.1663	— .0016
9	.0812	.0803	+ .0009	.1557	.1563	— .0006	.1832	.1852	— .0020	.1637	.1629	+ .0008
10	.0802	.0783	.0019	.1577	.1550	+ .0027	.1851	.1851	± .0000	.1607	.1600	.0007
11	0.0778	0.0772	+0.0006	0.1535	0.1548	—0.0013	0.1853	0.1851	+0.0002	0.1592	0.1582	+0.0010
M. & D.	0.08509	0.08509	±0.0000	0.15455	0.15455	±0.0000	0.18819	0.18819	±0.0000	0.17110	0.17110	±0.0000

Time.	September.			November.			December.		
	Observed.	Computed.	Difference, O.—C.	Observed.	Computed.	Difference, O.—C.	Observed.	Computed.	Difference, O.—C.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	0.1095	0.1092	+0.0003	0.0345	0.0358	—0.0013	0.0168	0.0145	+0.0023
1	.1095	.1090	.0005	.0367	.0357	+ .0010	.0143	.0148	— .0005
2	.1095	.1090	.0005	.0365	.0356	.0009	.0148	.0144	+ .0004
3	.1095	.1092	.0003	.0354	.0353	+ .0001	.0146	.0151	.0005
4	.1095	.1094	+ .0001	.0349	.0351	— .0002	.0149	.0146	+ .0003
5	.1095	.1098	— .0003	.0344	.0348	— .0004	.0148	.0149	— .0001
6	.1095	.1103	— .0008	.0348	.0347	+ .0001	.0151	.0141	+ .0010
7	.1122	.1105	+ .0017	.0347	.0345	.0002	.0147	.0145	+ .0002
8	.1095	.1103	— .0008	.0346	.0343	.0003	.0140	.0142	— .0002
9	.1095	.1100	.0005	.0351	.0343	+ .0008	.0138	.0140	.0002
10	.1095	.1096	— .0001	.0343	.0343	± .0000	.0134	.0138	— .0004
11	.1095	.1094	+ .0001	.0338	.0343	— .0005	.0135	.0135	± .0000
Noon.	.1095	.1094	+ .0001	.0339	.0342	.0003	.0135	.0134	+ .0001
1^h	.1095	.1096	— .0001	.0330	.0343	— .0013	.0134	.0132	+ .0002
2	.1095	.1100	.0005	.0358	.0344	+ .0014	.0130	.0138	— .0008
3	.1095	.1103	— .0008	.0351	.0345	.0006	.0126	.0130	— .0004
4	.1115	.1102	+ .0013	.0348	.0345	+ .0003	.0130	.0130	± .0000
5	.1095	.1100	— .0005	.0333	.0345	— .0012	.0127	.0129	— .0002
6	.1095	.1097	— .0002	.0354	.0353	+ .0001	.0130	.0137	— .0007
7	.1095	.1094	+ .0001	.0354	.0354	± .0000	.0130	.0128	+ .0002
8	.1095	.1091	.0004	.0358	.0356	+ .0002	.0132	.0128	+ .0004
9	.1095	.1089	.0006	.0367	.0359	+ .0008	.0126	.0131	— .0005
10	.1095	.1092	+ .0003	.0357	.0359	— .0002	.0131	.0134	.0003
11	0.1062	0.1079	—0.0017	0.0356	0.0370	—0.0014	0.0126	0.0139	—0.0013
M. & D.	0.10955	0.10955	±0.000 0	0.0350	0.0350	±0.0000	0.01377	0.01377	±0.0000

In January both the observed and computed absolute maxima occur at 8^h p. m., while the computed absolute minimum is reached at 2^h a. m.; the corresponding observed value occurring one hour earlier. The computed maximum and minimum of temperature occur at 5^h a. m., and at midnight, respectively; the observed maximum coinciding in regard to time with the one computed and the time of the observed minimum being 2^h p. m. Besides the absolute maximum and minimum the hygrometrical curve shows three other relative maxima and as many relative minima similarly to the thermal curve. The range as derived from the computed values is $0^{in}.0011$, while the one deduced from the observed values is $0^{in}.0029$.

In February both the observed and computed maxima of $0^{in}.0100$ and $0^{in}.0097$ occur at 3^h a. m., while the absolute computed and observed minima of $0^{in}.0078$ and $0^{in}.0073$ are reached at 6^h p. m. The minimum of the force of vapor coincides in regard to time with that of the thermal curve, while the maximum of the latter occurs three hours earlier. The observed and computed ranges are $0^{in}.0027$ and $0^{in}.0019$ respectively.

In March the computed maximum of $0^{in}.0122$ is reached at 11^h a. m., while the corresponding observed value of $0^{in}.0123$ occurs 2 hours later. The computed and observed minima of $0^{in}.0091$ and $0^{in}.0089$, respectively, are both reached at 5^h a. m. The computed range is $0^{in}.0031$, being $0^{in}.0007$ greater than the observed value. There is a reasonable coincidence between the maximum and minimum of force of vapor and the maximum and minimum of temperature. Evidently the thermal minimum is influenced by the minimum of the force of vapor, which latter occurs one hour before the former.

In April the curve assumes a more regular character, being similar in form to the one representing the diurnal fluctuation during spring. The observed maximum occurs at noon, while the one computed is reached two hours earlier. The observed and computed minima occur at 2^h and 3^h a. m., respectively, and the observed and computed ranges are $0^{in}.0090$ and $0^{in}.0045$, respectively. The observed minima of temperature and force of vapor correspond in regard to time, the same being the case with the maxima.

In May both the observed and computed maxima are reached at 1^h p. m.; the computed minimum occurs at 1^h a. m., and the one observed an hour earlier. Both the observed and computed maxima of temperature are reached at 1^h p. m., and the minima at midnight. The range, as derived from the computed values, is $0^{in}.0208$, while that derived from the observed values is $0^{in}.0123$ only.

The curve of June is less regular than we might expect. The absolute computed maximum occurs at 4^h p. m., while the corresponding observed value is reached an hour earlier. The absolute

computed minimum occurs at 2^h a. m., and the corresponding observed value at 11^h a. m., which is evidently abnormal. The computed thermal curve for this month passes the absolute maximum at 11^h a. m., and the absolute minimum at 1^h a. m., while the observed maximum is reached an hour sooner and the minimum an hour later than the computed values.

In July both the observed and computed absolute maxima occur at 8^h a. m., the computed absolute minimum at 1^h a. m., while the corresponding observed value is reached four hours earlier. At first sight it might seem that the analytical expression for the month in question was not well chosen, but further examination proves that a secondary observed minimum coincides with the absolute one computed. The computed and observed ranges are $0^{in}.0075$ and $0^{in}.0112$ respectively. The corresponding thermal curve passes through the maximum at 11^h a. m., and through the minimum at 1^h a. m.

In August both the observed and computed maxima occur at 2^h p. m., while the minima are reached at 1^h a. m. The ranges as computed and observed are $0^{in}.0229$ and $0^{in}.0243$, respectively. The maximum force of vapor is reached one hour before the occurrence of the maximum of temperature, while the thermal minimum, as computed, precedes the minimum of force of vapor by two hours, coinciding, however, with the corresponding observed value.

In September the observed and computed maxima are reached at 7^h a. m., while the minima occur at 11^h p. m. The computed and observed ranges are $0^{in}.0026$ and $0^{in}.0060$, respectively. The thermal curve for this month passes through the maximum at 4^h p. m., and seven hours later through the minimum.

As mentioned before, October was omitted in the analytical treatment because a great number of the observations had to be interpolated.

In November the computed and observed minima occur at 11^h a. m., and noon respectively, while the computed maximum is reached at 11^h p. m., and the corresponding observed value two hours later. The corresponding thermal curve passes the maximum at 11^h p. m., and the minimum at 7^h a. m., the computed minimum occurring two hours earlier.

In December the computed and observed maxima occur at 3^h a. m., and midnight, respectively, and the corresponding minima at 7^h and 9^h p. m., respectively. The maximum temperature, as computed, is reached at midnight, and the corresponding observed value five hours later. Both the observed and computed minima occur at noon.

The following table, derived directly from the table headed "Monthly means," contains the correction to be applied to any hourly observation taken at or near Polaris Bay to obtain the mean force of vapor of the day.

Corrections to be applied to any hourly observation taken at Polaris Bay to obtain the mean force of vapor of the day.

Time.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	+0. 00049	—0. 00307	+0. 00020	+0. 00013	+0. 00047	+0. 00339	+0. 01244	+0. 00342	+0. 00249	+0. 01311
1	— . 00168	. 00056	. 00081	— . 00047	. 00067	. 00398	. 01093	. 00285	. 00469	. 01457
2	. 00151	. 00101	. 00041	. 00113	. 00070	. 00402	. 01029	+ . 00201	. 00222	. 01319
3	— . 00041	. 00082	. 00028	. 00136	. 00113	. 00397	. 00739	— . 00049	. 00114	. 00633
4	+ . 00011	. 00113	. 00083	. 00103	. 00163	. 00184	. 00644	+ . 00089	. 00017	+ . 00410
5	. 00059	. 00102	. 00028	. 00077	. 00284	+ . 00466	. 00311	— . 00119	+ . 00048	— . 00033
6	00024	. 00128	. 00034	. 00080	. 00100	± . 00000	+ . 00026	— . 00017	— . 00244	. 00043
7	. 00031	. 00095	+ . 00041	. 00032	+ . 00067	— . 00039	— . 00127	+ . 00260	. 00330	. 00562
8	+ . 00041	— . 00021	— . 00015	. 00066	— . 00027	. 00280	. 00380	. 00019	. 00617	. 00544
9	— . 00007	± . 00000	— . 00018	. 00052	. 00119	. 00296	. 00634	. 00277	. 00170	. 00567
10	+ . 00070	+ . 00033	+ . 00031	— . 00051	. 00139	. 00385	. 00740	. 00120	. 00276	. 01227
11	. 00124	. 00031	+ . 00011	+ . 00029	. 00117	. 00375	. 00905	+ . 00352	. 00361	. 00617
Noon.	. 00108	. 00029	— . 00017	. 00012	. 00147	. 00493	. 00859	— . 00170	. 00122	. 00609
1^h	+ . 00198	. 00034	— . 00004	. 00090	. 00157	. 00366	. 00994	. 00334	. 00153	. 01005
2	— . 00081	. 00073	± . 00000	. 00064	. 00066	. 00363	. 00822	. 00332	. 00485	. 00968
3	— . 00005	. 00113	— . 00046	. 00028	. 00079	. 00191	. 00752	. 00463	— . 00126	. 00945
4	+ . 00018	. 00081	. 00021	. 00069	. 00068	. 00225	. 00669	. 00099	+ . 00018	. 00597
5	+ . 00173	. 00105	. 00032	. 00065	— . 00017	. 00133	. 00262	. 00273	. 00162	. 00656
6	— . 00036	. 00077	— . 00063	. 00135	+ . 00047	— . 00090	— . 00084	— . 00163	. 00143	— . 00548
7	. 00039	. 00073	+ . 00002	. 00083	. 00012	+ . 00139	+ . 00125	+ . 00186	. 00155	+ . 00170
8	. 00083	. 00056	— . 00095	. 00088	. 00072	. 00171	. 00411	+ . 00213	. 00199	. 00644
9	. 00165	. 00014	. 00036	. 00034	+ . 00022	. 00212	. 00387	— . 00111	. 00496	. 00739
10	. 00073	. 00064	. 00046	. 00017	— . 00020	. 00242	. 00493	— . 00316	. 00305	. 01038
11	—0. 00055	+ . 00021	—0. 00011	+0. 00032	—0. 00019	+0. 00283	+0. 00733	+0. 00104	+0. 00285	+0. 01195

RELATIVE HUMIDITY.

The following two tables contain the daily and hourly means of relative humidity extracted from the preceding general record.

Daily means of relative humidity observed at Polaris Bay.

Day of month.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.
	p. c.	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*
1	83.56	76.20	75.91	71.37	41.90	50.65	52.18	88.07	76.84	83.44	51.01	78.84
2	82.36	76.20	75.91	60.20	42.39	45.09	42.21	79.29	84.30	82.11	56.90	76.28
3	84.43	76.20	75.91	64.79	48.43	30.57	40.21	72.91	87.39	66.85	62.16	81.92
4	87.91	76.20	75.91	75.78	38.94	42.82	40.02	75.99	77.99	59.96	60.18	67.67
5	89.08	76.20	75.91	75.81	43.19	49.82	59.81	79.02	77.78	60.16	60.18	63.28
6	86.95	76.20	86.46	67.12	39.48	45.02	53.01	73.65	83.85	66.22	60.18	69.40
7	76.55	76.20	87.95	54.86	32.50	56.86	40.40	77.77	84.61	74.23	60.18	78.80
8	79.53	76.20	82.22	51.19	36.05	46.77	45.44	80.88	86.39	74.88	60.18	76.46
9	76.13	76.20	85.93	57.31	26.76	52.10	44.79	81.59	88.97	72.50	60.18	65.83
10	73.12	76.20	84.36	81.52	44.40	63.60	38.55	44.58	86.71	68.74	60.18	69.08
11	81.81	76.20	80.16	72.91	38.74	64.64	43.04	80.04	83.57	83.69	60.18	75.16
12	66.73	76.20	79.06	59.27	31.49	55.97	30.62	71.09	83.33	77.31	76.83	73.41
13	73.11	76.20	62.39	52.44	36.26	63.67	46.10	77.61	82.49	73.61	83.07	78.92
14	77.43	76.20	63.73	69.20	42.30	45.07	50.58	62.79	87.02	70.15	87.45	80.64
15	83.40	76.20	62.16	56.04	43.50	41.43	55.63	74.30	88.70	78.91	86.23	84.26
16	76.82	76.20	61.66	50.00	52.12	43.53	59.71	75.11	86.36	56.98	83.08	86.33
17	71.32	76.20	72.11	48.56	40.54	49.11	63.34	75.13	83.46	76.86	86.32	81.58
18	82.49	76.20	76.49	46.81	33.47	70.73	60.89	69.62	82.68	81.03	83.93	74.72
19	78.37	76.20	67.07	67.45	44.93	62.39	66.84	77.67	80.92	79.13	77.83	78.61
20	82.38	76.20	51.88	52.80	62.03	43.98	60.50	70.49	80.92	62.52	77.56	84.06
21	90.56	76.20	47.40	48.79	77.28	51.54	55.36	81.84	77.29	74.06	64.70	82.42
22	83.35	76.20	47.40	45.60	78.64	49.14	56.04	91.10	79.74	69.75	79.54	88.52
23	77.25	76.20	47.40	39.07	67.26	46.98	48.56	90.05	84.40	74.44	93.26	85.58
24	84.44	76.20	49.11	33.17	52.24	43.85	62.99	88.64	86.91	61.99	87.75	84.52
25	80.33	76.20	51.15	38.85	50.10	68.60	65.60	85.95	87.95	64.30	86.78	86.57
26	85.17	76.20	47.53	41.70	56.40	71.60	73.14	82.22	83.47	69.76	83.96	87.82
27	88.13	76.20	45.92	42.86	45.73	52.84	84.90	83.44	85.89	74.65	82.66	86.23
28	88.17	76.20	74.51	38.18	43.81	60.74	85.08	78.97	80.11	72.44	70.04	89.17
29	86.13	76.20	74.36	46.90	52.17	59.22	82.24	84.05	78.72	75.55	70.78	86.17
30	79.25	76.20	75.31	44.42	67.78	....	86.80	82.53	80.33	55.62	80.29	86.76
31	....	76.20	....	45.84	69.56	....	61.88	....	83.82	....	80.24	89.03
Means.	81.37	76.20	68.11	55.04	48.21	53.28	56.66	78.66	83.25	71.69	73.35	79.68

Hourly means of relative humidity observed at Polaris Bay.

Hour	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.
	p. c.	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*
0^h	80.92	76.20	68.10	52.65	47.31	49.64	56.26	76.79	81.46	72.25	73.87	83.62
1	80.92	76.20	69.00	53.91	47.32	49.91	55.31	76.21	81.55	72.31	73.92	84.02
2	80.92	76.20	70.07	55.03	47.34	51.72	54.94	75.96	82.08	72.41	74.31	84.66
3	80.92	76.20	68.07	54.13	46.91	53.12	52.13	77.83	82.45	71.93	74.40	84.33
4	80.92	76.20	65.83	53.57	46.08	55.18	51.27	80.60	82.90	71.88	75.09	84.00
5	80.92	76.20	66.13	53.40	47.05	55.81	53.00	81.91	83.82	71.99	74.91	83.12
6	80.92	76.20	67.83	53.24	48.17	56.70	54.68	83.19	85.21	72.05	74.72	82.81
7	80.92	76.20	66.93	52.20	48.23	56.45	57.45	82.01	84.31	72.00	74.09	80.12
8	81.54	76.30	66.96	52.02	49.22	56.01	59.57	80.43	84.26	71.26	74.35	78.98
9	81.54	76.20	67.92	51.99	47.99	56.89	59.98	80.01	84.35	70.11	73.33	77.01
10	81.54	76.20	66.80	51.98	46.39	57.20	64.29	79.94	84.83	69.12	72.77	75.67
11	81.54	76.20	67.81	55.00	47.17	54.11	63.31	80.01	84.99	69.12	71.91	74.12
Noon.	81.54	76.20	68.62	58.73	49.48	54.70	62.10	82.10	85.74	69.69	71.39	73.56
1^h	81.54	76.20	68.51	56.93	48.57	52.98	60.10	82.21	84.83	70.51	72.41	73.82
2	81.54	76.20	68.43	55.27	47.57	51.94	57.30	82.43	83.87	71.47	73.12	74.59
3	81.54	76.20	68.10	55.31	47.70	51.71	56.79	81.03	83.88	71.51	72.19	76.01
4	82.24	76.20	67.68	55.93	47.78	51.61	55.83	77.43	83.38	71.53	71.86	77.25
5	81.61	76.20	67.93	55.99	48.31	50.36	53.55	77.45	82.91	71.89	71.83	77.92
6	81.61	76.20	68.06	56.98	49.29	49.69	51.38	77.48	81.88	72.72	71.74	78.69
7	81.61	76.20	69.21	57.62	49.91	50.47	52.13	75.31	81.71	72.70	72.71	80.00
8	81.61	76.20	70.35	58.26	50.98	51.38	54.81	72.10	81.29	72.47	73.74	80.04
9	81.61	76.20	69.54	57.22	49.99	51.27	56.01	73.12	81.87	72.13	73.71	81.01
10	81.61	76.20	68.53	56.82	48.86	52.58	57.56	75.51	82.07	73.47	73.20	82.33
11	81.61	76.20	68.41	56.71	48.81	52.99	57.63	75.61	82.13	73.45	73.21	82.35
Means.	81.41	76.20	68.11	55.04	48.21	53.28	56.66	78.66	83.25	71.69	73.35	79.68

ANNUAL FLUCTUATION OF RELATIVE HUMIDITY AT POLARIS BAY.

The following table contains the means of the relative humidity of the actual months, and also the means of the equi-intervals:

Comparison of the means of the actual months and the equi-intervals.

Months.	Mean relative humidity of actual months.	Mean relative humidity of equi-intervals.	Months.	Mean relative humidity of actual months.	Mean relative humidity of equi-intervals.
	p. c.	p. c.		p. c.	p. c.
January	48.21	47.52	July	73.35	74.16
February	53.28	53.35	August	79.68	80.06
March	56.66	56.20	September	81.41	81.39
April	78.66	77.68	October	76.20	76.18
May	83.25	83.66	November	68.11	68.29
June	71.69	70.78	December	55.04	54.67

The analytical elements and expression for the annual fluctuation of relative humidity are as follows:

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 11.0996	− 8.77665	+ 14.150	231 40 00
2	− 3.1599	− 7.3213	+ 7.974	203 40 45
3	+ 2.0185	+ 2.3201	+ 3.075	37 7 14
4	− 2.9019	− 1.41835	+ 3.230	243 57 00

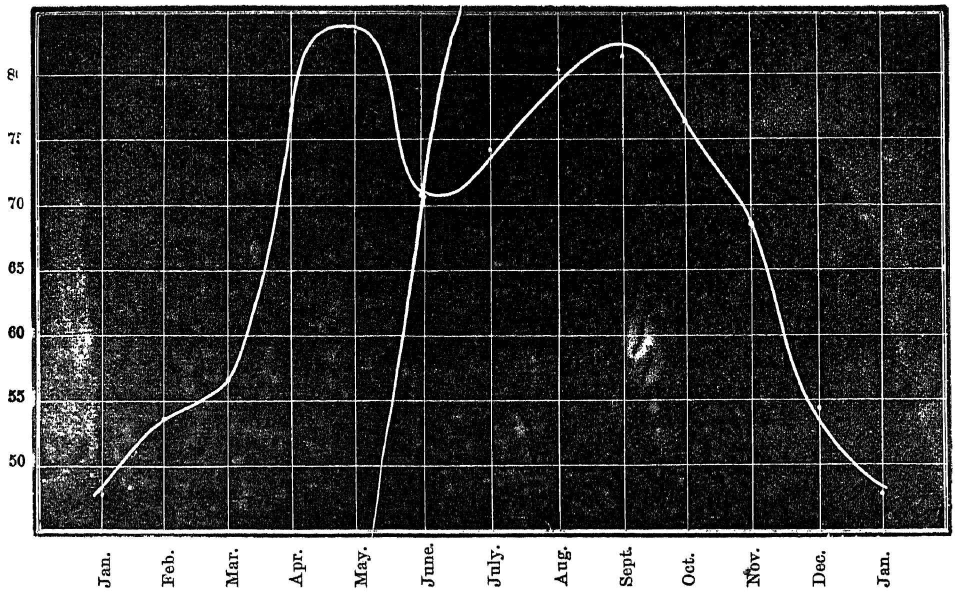
$$H = +68.666 + 14.150 \sin(x + 231^\circ 40' 00'') + 7.974 \sin(2x + 203^\circ 40' 45'') + 3.075 \sin(3x + 37^\circ 7' 14'') + 3.230 \sin(4x + 243^\circ 57' 00'')$$
$$x = 30^\circ, 60^\circ, \ldots$$

The following table contains the observed values and those computed according to the above formula:

Months, (equi-intervals.)	Observed.	Computed.	Difference.
	p. c.	p. c.	p. c.
January	47.525	47.914	− 0.389
February	53.351	53.341	+ 0.010
March	56.204	56.250	− 0.046
April	77.686	77.471	+ 0.215
May	83.666	83.761	− 0.095
June	70.783	70.931	− 0.148
July	74.164	74.013	+ 0.151
August	80.066	79.903	+ 0.163
September	81.397	81.682	− 0.285
October	76.180	76.155	+ 0.025
November	68.299	68.375	− 0.076
December	54.673	54.193	+ 0.480
Spring	72.519	72.494	+ 0.025
Summer	75.004	74.949	+ 0.055
Autumn	75.292	75.404	− 0.112
Winter	51.849	51.816	+ 0.033
Year	68.666	68.666	± 0.000

Probable error of year = 0.06

The preceding values thrown into a curve result in the following diagram:



According to the above curve, the minimum relative humidity occurs in January and the maximum in May. There is, however, a second relative maximum in September and a second relative minimum in June. The computed and observed annual ranges are 35.847 and 33.872, respectively. If we compare the annual march of the force of vapor with that of the relative humidity we shall arrive at a somewhat unusual result. We might expect the periodic changes in the force of vapor to follow those of the temperature; in other words, a maximum of temperature ought to correspond to a maximum of force of vapor and to a minimum of relative humidity, while the march of the relative humidity ought to show the contrary relation. The annual curves of temperature, force of vapor, and relative humidity represented on one diagram, would show the two former to run nearly parallel with each other, while the other would show the same course only from January until May, and from October till December, so that a relative minimum of the relative humidity corresponds to the absolute maxima of both the force of vapor and temperature.

To find out how far the maxima of force of vapor correspond in general to the minima of relative humidity we investigated the Toronto Observations,* as well the whole period from 1841 to 1871, as also, some of the years separately. The curves representing a period of 29 years demonstrate that the absolute minimum of force of vapor coincides with the absolute maximum of relative humidity, while, as in our case, only a relative minimum of the relative humidity corresponds to the absolute maximum of the force of vapor. In 1850 the curve representing the march of the force of vapor reaches its maximum in July, the absolute minimum in December, and a second relative minimum in February, while the absolute maximum of relative humidity occurs in November and two relative maxima in January and (middle of) August, respectively. The absolute minimum is reached in May, and the two relative minima in October and December, respectively.

In 1860 the annual curve of the force of vapor passes through the maximum in August and through the minimum in January, while the absolute maximum of relative humidity is reached in December and the minimum in March; there being, however, a second relative minimum of almost the same value in June. Besides the absolute maximum, the relative humidity exhibits four other relative maxima, occurring in October, August (where a minimum should take place), May, and in the middle of January, respectively, thus showing greater irregularities than the curve of Polaris Bay. In 1870 there is only a relative minimum of relative humidity coinciding with the absolute maximum of force of vapor, while the absolute maximum of relative humidity corresponds almost with the absolute minimum of force of vapor, so that it appears that the curves of Polaris

* Abstracts and results of magnetical and meteorological observations at the Magnetic Observatory, Toronto, Canada, from 1841 to 1871, inclusive. Toronto: Copp, Clark & Co., 1875. Table XXVI, *et seq.*

Bay are not as irregular as might seem at first. We shall see, hereafter, in the course of the discussion of the seasons, that the general law can be recognized beyond doubt in summer, and also, to a certain extent, in autumn, while the curves of winter and spring are less in agreement with the law, although the latter exhibits a very regular course.

DIURNAL FLUCTUATION OF RELATIVE HUMIDITY AT POLARIS BAY.

The diurnal changes in the relative humidity during the year were only computed from alternate hours. The analytical elements and expression used in the computation are as follows:

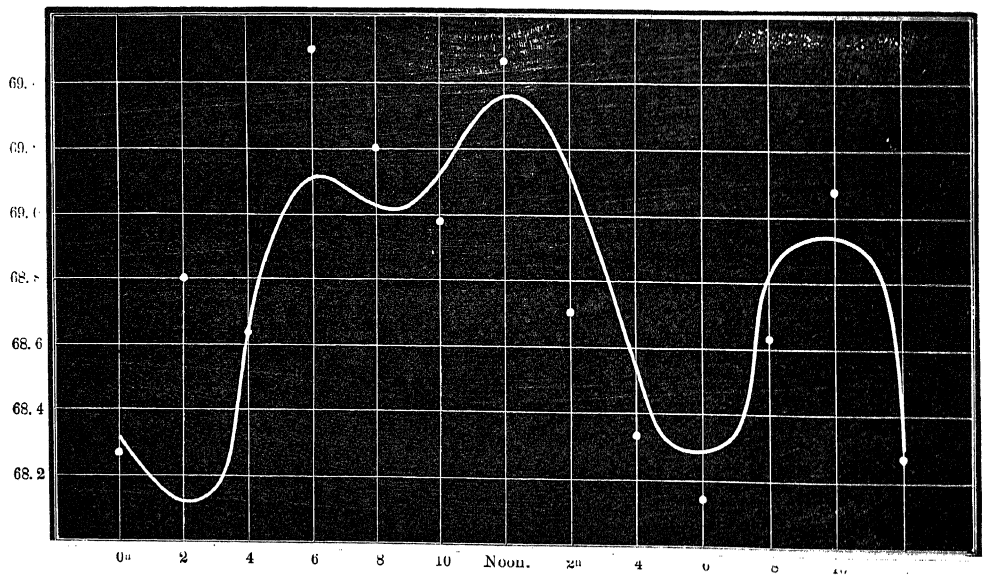
n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 0.367	− 0.050	+ 0.371	262 13 12
2	+ 0.226	− 0.038	+ 0.229	99 36 42
3	+ 0.279	− 0.167	+ 0.325	120 53 16

$$H = 68.888 + 0.371 \sin (x + 262^\circ\ 13'\ 12'') + 0.229 \sin (2x + 99^\circ\ 36'\ 42'') + 0.325 \sin (3x + 120^\circ\ 53'\ 16'')$$
$$x = 30^\circ, 60^\circ, \ldots .$$

By means of the above expression the following values were obtained:

Time.	Observed.	Computed.	Difference, O.−C.	Time.	Observed.	Computed.	Difference, O.−C.
	p. c.	*p. c.*	*p. c.*		*p. c.*	*p. c.*	*p. c.*
0^h	68.225	68.356	+0.101	Noon.	69.488	69.378	+0.110
2	68.803	68.135	+ .668	2^h	68.644	69.148	− .504
4	68.627	68.679	− .052	4	68.227	68.445	− .218
6	69.644	69.127	+ .517	6	67.976	68.289	− .313
8	69.233	69.060	+ .173	8	68.602	68.808	− .206
10	68.894	69.102	− .208	10	69.060	68.926	+ .134
Mean = 68.888; difference = ± 0.000.							

The above values thrown into a curve result in the following diagram:



The computed curve passes through the absolute maximum at noon and through the absolute minimum at 2^h a. m. There are, in addition to the absolute maximum, two relative maxima, occurring at 6^h a. m. and 10^h p. m., respectively, the former corresponding in regard to time with the absolute maximum observed. The two relative minima are reached between 8^h and 9^h a. m., and at 6^h p. m., respectively.

A comparison of the curve in question with that illustrating the diurnal march of the tension of vapor shows that the absolute maxima coincide within $1\frac{1}{2}^h$ in time, the maximum of tension of vapor occurring later than that of the relative humidity. The Toronto observations, comprising the period from 1842 to 1848, show that the maximum of force of vapor has its corresponding minimum of relative humidity, and *vice versa*. This, however, is not the case if we examine the curve of January during the same period, for we shall find that a relative maximum of relative humidity corresponds to the absolute maximum of the force of vapor, while the July curves for the same period are more in accordance with the general law deduced for lower latitudes.

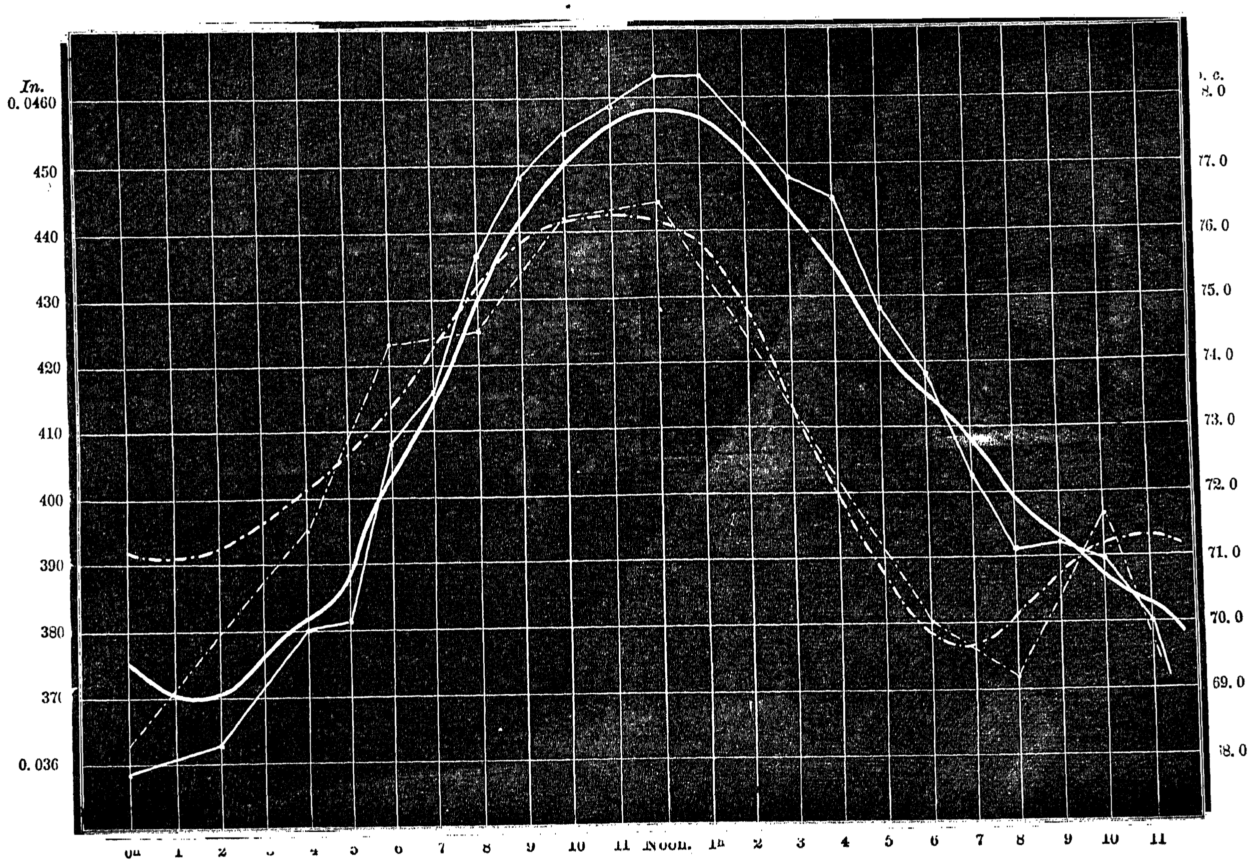
In order to discuss the diurnal variation of the relative humidity during the different seasons, the computed means of the respective months constituting the respective seasons were used, instead of computing each season separately.

The following values were obtained for spring:

	0^h	2	4	6	8	10	Noon.	2^h	4	6	8	10	Mean.
Observed	71.50	70.99	71.59	74.36	74.75	76.35	76.65	74.54	72.21	70.25	69.40	71.71	72.86
Computed	71.46	71.28	72.03	73.69	75.26	76.33	76.40	74.76	71.88	69.89	70.10	71.20	72.86
Δ O.—C.	— 0.04	— 0.29	— 0.44	+ 0.67	— 0.51	+ 0.02	+ 0.25	— 0.22	+ 0.35	+ 0.38	— 0.70	+ 0.51	± 0.00

resulting in the following curve represented simultaneously with that illustrating the diurnal march of the force of vapor during the same period.

Diurnal fluctuation of relative humidity and force of vapor during spring, 1872.



In the above diagram the curve exhibiting the march of the force of vapor is represented in full, the fluctuation of the relative humidity being indicated by dotted lines.

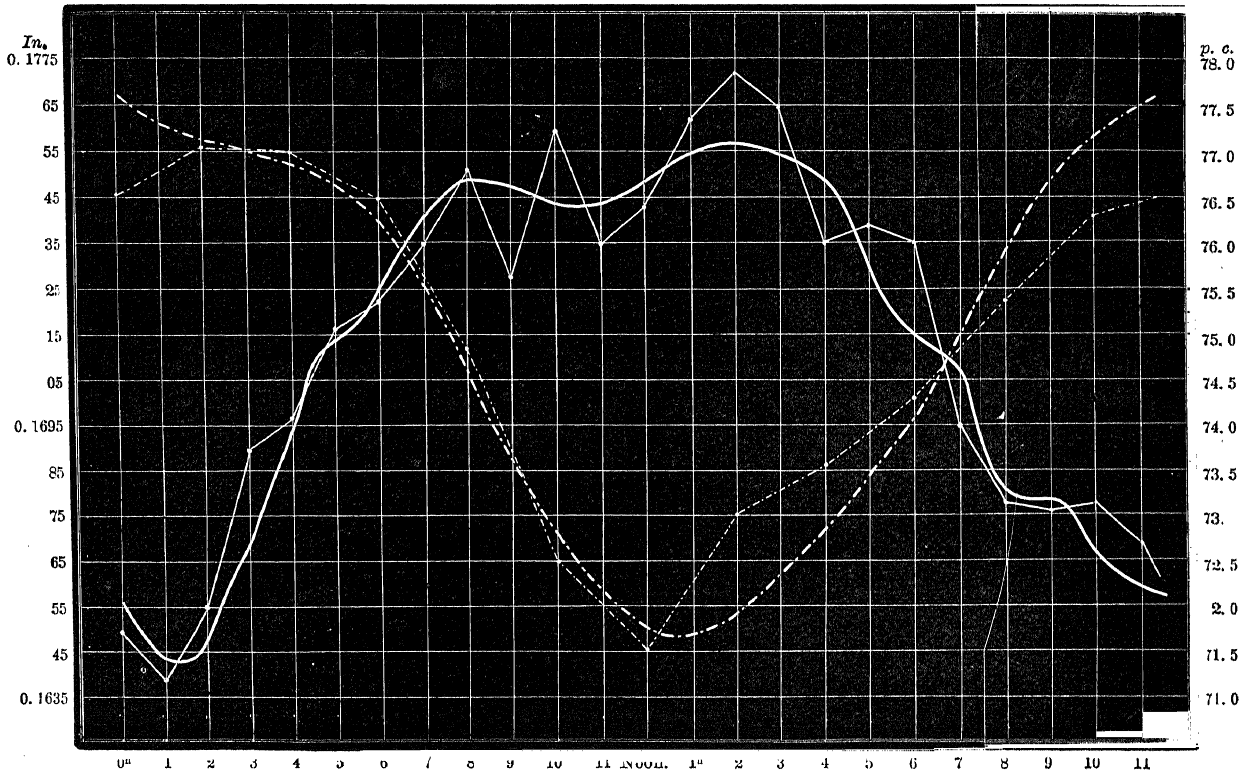
It will be noticed that during the afternoon the curves run nearly parallel, while this is less the case during the rest of the day. The maximum of relative humidity is reached at noon and coincides with both the maxima of force of vapor and of temperature. The observed and computed ranges are 7.25 and 6.51, respectively.

The following values were obtained for summer:

	0h	2	4	6	8	10	Noon.	2h	4	6	8	10	Mean.
Observed	76.58	77.13	76.99	76.53	74.86	72.52	71.54	73.06	73.55	74.38	75.42	76.33	74.92
Computed	77.59	77.16	76.85	76.36	74.80	72.71	71.64	71.97	72.86	74.03	75.71	77.21	74.92
Δ O—C.	— 1.01	— 0.03	+ 0.14	+ 0.17	+ 0.06	— 0.19	— 0.10	+ 1.09	+ 0.69	+ 0.35	— 0.29	— 0.88	± 0.00

represented graphically in the annexed diagram.

Diurnal fluctuation of relative humidity and force of vapor during summer, 1872.



The computed curve passes through the maximum at midnight and through the minimum about half an hour after noon. The observed maximum and minimum occur at 2h a. m. and noon, respectively. The computed and observed ranges are 5.95 and 5.59, respectively.

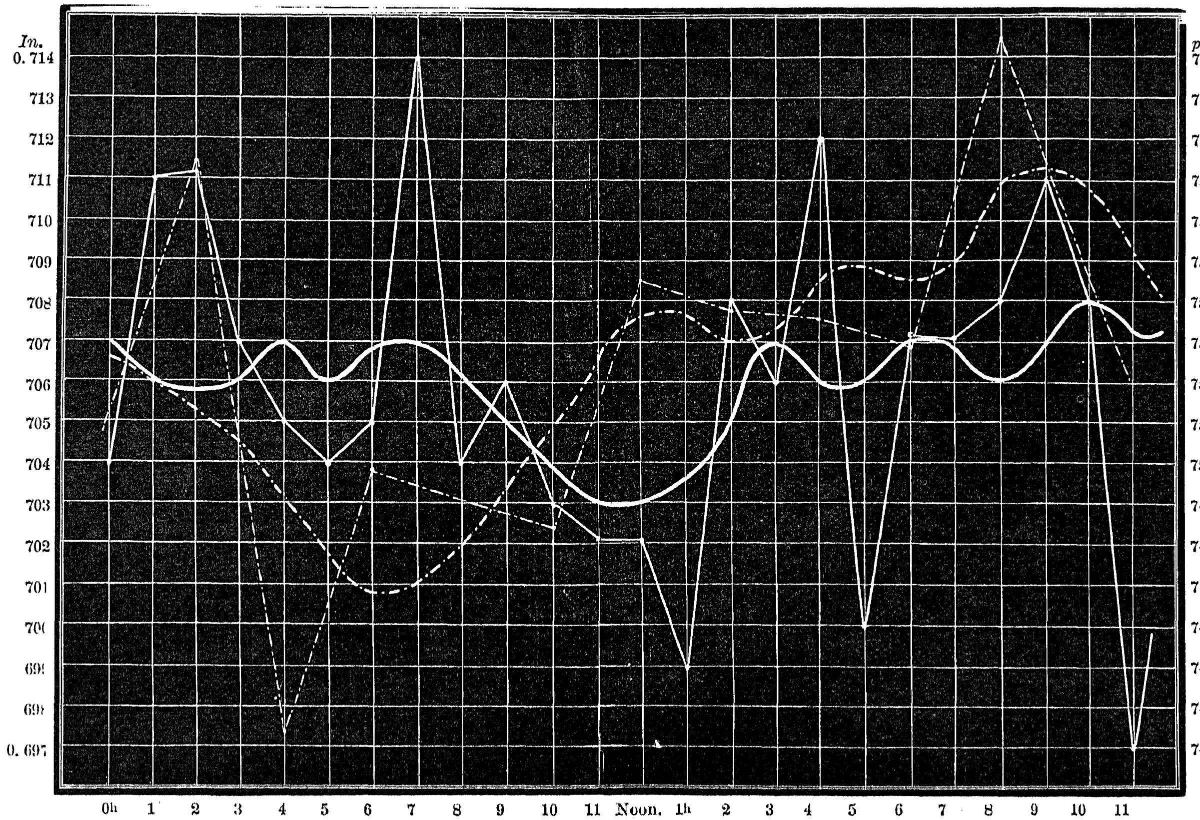
It will be seen that the two hygrometrical curves, represented simultaneously on the above diagram, have the same relation to each other as at the majority of the other stations situated in lower latitudes.

The diurnal fluctuation during autumn is represented by the following values:

	0h	2	4	6	8	10	Noon.	2h	4	6	8	10	Mean.
Observed	75.07	75.73	74.32	74.98	74.90	74.84	75.45	75.39	75.37	75.29	76.05	75.45	75.24
Computed	75.27	75.14	74.94	74.67	74.81	75.08	75.35	75.30	75.46	75.45	75.70	75.68	75.24
Δ O.—C.	— 0.20	+ 0.59	— 0.62	+ 0.31	+ 0.09	— 0.23	+ 0.10	+ 0.09	— 0.09	— 0.16	+ 0.35	— 0.23	± 0.00

The above values thrown into a curve result in the following diagram:

Diurnal fluctuation of relative humidity and force of vapor during autumn, 1871.



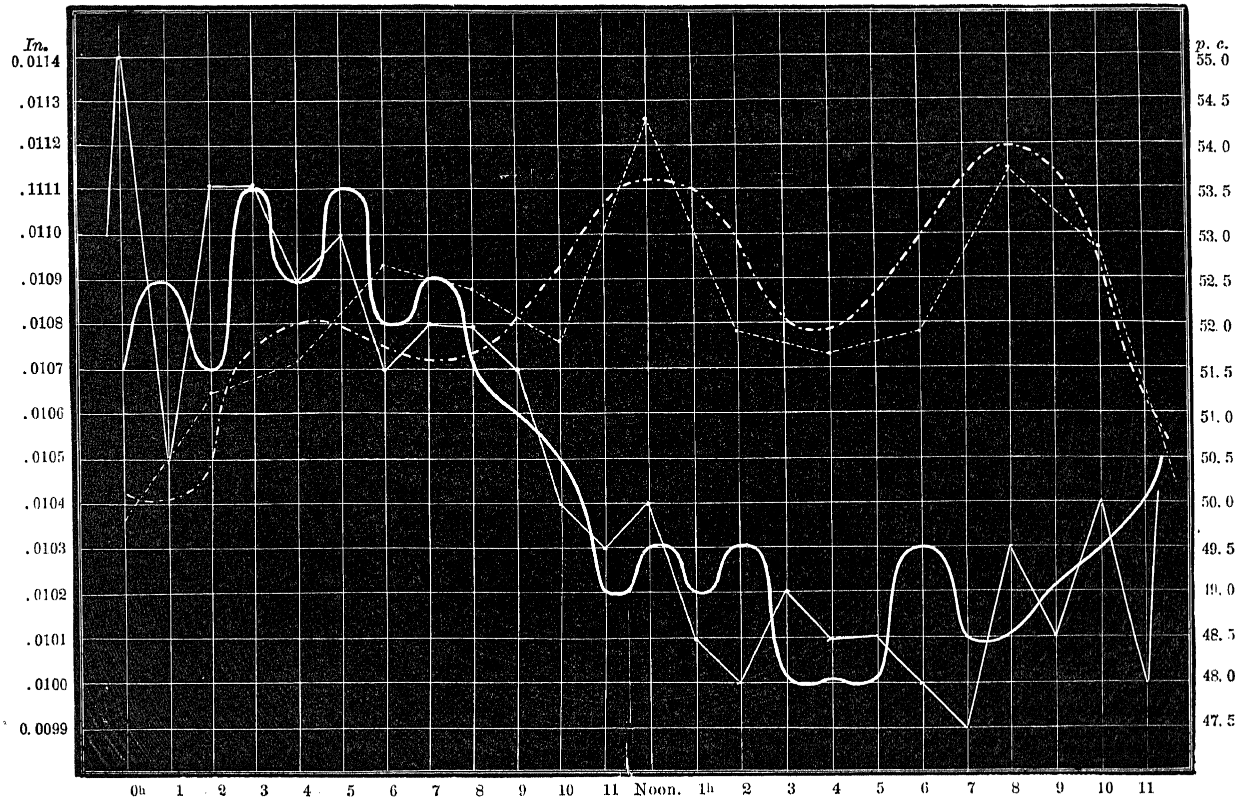
The computed curve passes through the maximum at 9^h p. m., the corresponding observed value occurring one hour earlier, while the computed minimum is reached at 6^h a. m., and the observed minimum at 4^h a. m. The ranges, as derived from the computed and observed values, are 0.75 and 1 70, respectively. Besides the absolute maximum, the curve shows two relative maxima at about half an hour after noon and 5^h p. m., respectively. It will be seen that the absolute minimum of relative humidity coincides with a relative maximum of force of vapor, while the two relative maxima correspond to the absolute minimum and a relative minimum, respectively. The absolute maximum of relative humidity lies between the absolute maximum of force of vapor and a relative minimum, and the two relative minima coincide with two relative maxima of force of vapor.

The following values were obtained for winter:

	0^h	2	4	6	8	10	Noon.	2^h	4	6	8	10	Mean.
Observed	49.86	51.36	51.61	52.70	52.42	51.86	54.30	51.59	51.78	51.99	53.54	52.76	52.15
Computed	50.19	50.40	51.50	51.86	51.25	52.55	53.64	52.93	51 97	52.91	54.00	52.57	52.15
Δ O.— C.	— 0.33	+ 0.96	+ 0.11	+ 0.84	+ 1.17	— 0.69	+ 0.66	— 1.34	— 0.19	— 0.92	— 0.46	+ 0.19	± 0.00

resulting in the annexed diagram.

Diurnal fluctuation of relative humidity and force of vapor during winter, 1871–'72.



The computed curve passes through the maximum at 8^h p. m. and through the minimum at about $1\frac{1}{2}^h$ a. m. Besides the absolute maximum and minimum there are two relative maxima occurring at $4\frac{1}{2}^h$ a. m. and noon, respectively, and two relative minima which are reached at 7^h a. m. and about $3\frac{1}{2}^h$ p. m., respectively. The computed absolute maximum does not coincide in regard to time with its observed value, although it corresponds to a relative maximum, while the absolute minima as observed and computed coincide within half an hour. The computed and observed ranges are 3.81 and 4.44, respectively.

A comparison of the two hygrometrical curves shows that the absolute minimum of relative humidity coincides with a relative maximum of force of vapor, and the absolute maximum, as computed, with a relative minimum occurring about $4\frac{1}{2}$ hours after the absolute minimum is reached. The relative minimum of relative humidity at 7^h a. m. corresponds to a relative maximum of force of vapor, and the relative minimum taking place between 3^h and 4^h p. m. corresponds to the absolute minimum of force of vapor. The two relative maxima of relative humidity at $4\frac{1}{2}^h$ a. m. and noon, respectively, correspond to a relative minimum of force of vapor and to a relative maximum, respectively.

For want of time the diurnal range of the relative humidity during the different months was only computed for every other hour. The analytical elements and expressions made use of are as follows:

January.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	+ 0.427	− 0.808	+ 0.914	152 8 57
2	+ 0.617	− 0.861	+ 1.061	144 22 30
3	+ 0.266	− 0.373	+ 0.457	144 32 37

$$H = +48.206 + 0.914 \sin(x + 152^\circ\ 8'\ 57'') + 1.061 \sin(2x + 144^\circ\ 22'\ 30'') + 0.457 \sin(3x + 144^\circ\ 32'\ 37'')$$
$$x = 30^\circ, 60^\circ, \ldots$$

February.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 2.771	− 0.423	+ 2.803	261 19 30
2	+ 0.637	− 0.835	+ 1.050	142 40 22
3	+ 0.433	− 0.666	+ 0.795	146 57 24

$$H = +53.197 + 2.803 \sin(x + 261^\circ\ 19'\ 30'') + 1.050 \sin(2x + 142^\circ\ 40'\ 22'') + 0.795 \sin(3x + 146^\circ\ 57'\ 24'')$$
$$x = 30^\circ, 60^\circ, \ldots$$

March.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 3.125	− 0.717	+ 3.206	257 5 14
2	+ 3.662	+ 1.464	+ 3.943	68 12 14
3	− 0.177	+ 0.580	+ 0.606	343 0 8

$$H = +56.665 + 3.206 \sin(x + 257^\circ\ 5'\ 14'') + 3.943 \sin(2x + 68^\circ\ 12'\ 14'') + 0.606 \sin(3x + 343^\circ\ 0'\ 8'')$$
$$x\ 30^\circ, 60^\circ, \ldots$$

April.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 3.721	+ 0.670	+ 3.781	280 12 24
2	− 1.066	+ 0.589	+ 1.218	298 53 33
3	+ 1.292	− 0.025	+ 1.292	91 6 32

$$H = +78.662 + 3.781 \sin(x + 280^\circ\ 12'\ 24'') + 1.218 \sin(2x + 298^\circ\ 53'\ 33'') + 1.292 \sin(3x + 91^\circ\ 6'\ 32'')$$
$$x = 30^\circ, 60^\circ, \ldots.$$

May.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 1.933	+ 0.034	+ 1.933	279 52 48
2	+ 0.078	+ 0.073	+ 0.147	46 48 21
3	+ 0.392	− 0.140	+ 0.393	109 36 35

$$H = +83.247 + 1.933 \sin(x + 279^\circ\ 52'\ 48'') + 0.147 \sin(2x + 46^\circ\ 48'\ 21'') + 0.393 \sin(3x + 109^\circ\ 36'\ 35'')$$
$$x = 30^\circ, 60^\circ, \ldots$$

June.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	+ 1.486	+ 0.210	+ 1.501	35 14 45
2	− 0.384	− 0.387	+ 0.545	224 47 28
3	+ 0.459	+ 0.168	+ 0.488	69 55 14

$$H = +71.693 + 1.501 \sin(x + 35^\circ 14' 45'') + 0.545 \sin(2x + 224^\circ 47' 28'') + 0.488 \sin(3x + 69^\circ 55' 14'')$$
$$x = 30^\circ, 60^\circ, \ldots.$$

July.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	+ 0.191	+ 1.399	+ 1.367	7 46 59
2	− 0.209	− 0.122	+ 0.241	239 46 56
3	+ 0.370	− 0.026	+ 0.240	93 59 32

$$H = +73.391 + 1.367 \sin(x + 7^\circ 46' 59'') + 0.241 \sin(2x + 239^\circ 46' 56'') + 0.240 \sin(3x + 93^\circ 59' 32'')$$
$$x = 30^\circ, 60^\circ, \ldots.$$

August.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	+ 4.877	+ 3.937	+ 6.268	51 5 31
2	+ 0.743	− 0.591	+ 0.909	128 31 32
3	+ 0.119	+ 0.375	+ 0.394	17 36 54

$$H = +79.682 + 6.268 \sin(x + 51^\circ 5' 31'') + 0.909 \sin(2x + 128^\circ 31' 32'') + 0.394 \sin(3x + 17^\circ 36' 54'')$$
$$x = 30^\circ, 60^\circ, \ldots.$$

November.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	+ 0.858	− 0.440	+ 0.964	117 9 12
2	+ 0.274	+ 0.293	+ 0.401	43 6 6
3	− 0.025	− 0.343	+ 0.344	184 8 33

$$H = +68.106 + 0.964 \sin(x + 117^\circ 9' 12'') + 0.401 \sin(2x + 43^\circ 6' 6'') + 0.344 \sin(3x + 184^\circ 8' 33'')$$
$$x = 30^\circ, 60^\circ, \ldots.$$

December.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	+ 1.341	− 1.994	+ 2.603	146 4 19
2	− 0.022	+ 0.170	+ 0.172	352 48 10
3	+ 0.221	− 1.661	+ 1.676	172 24 33

$$H = +55.040 + 2.603 \sin(x + 146^\circ 4' 19'') + 0.172 \sin(2x + 352^\circ 48' 10'') + 1.676 \sin(3x + 172^\circ 24' 33'')$$
$$x = 30^\circ, 60^\circ \ldots$$

The computed and observed values compare as follows:

Time.	January. Observed.	January. Computed.	January. Difference, O.—C.	February. Observed.	February. Computed.	February. Difference, O.—C.	March. Observed.	March. Computed.	March. Difference, O.—C.	April. Observed.	April. Computed.	April. Difference, O.—C.
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.
0^h	47.306	47.361	— 0.055	49.641	49.515	+ 0.126	56.255	56.876	— 0.621	76.790	75.726	+ 1.064
2	47.335	46.399	+ 0.936	51.724	50.971	0.753	54.935	54.499	+ 0.436	75.957	77.133	— 1.176
4	46.077	47.152	— 1.075	55.179	52.803	2.376	51.265	52.110	— 0.845	80.600	80.424	+ 0.176
6	48.174	47.995	+ 0.179	56.703	55.054	1.649	54.681	53.928	+ 0.753	83.187	82.419	+ 0.768
8	49.216	48.115	+ 1.101	56.010	54.760	1.250	59.574	59.753	— 0.179	80.430	81.152	— 0.722
10	46.390	48.131	— 1.741	57.200	56.170	+ 1.029	64.287	64.032	+ 0.255	79.937	80.026	— 0.089
Noon.	49.484	48.175	+ 1.309	54.700	56.069	— 1.369	62.100	62.651	— 0.551	82.100	81.552	+ 0.548
2^h	47.574	47.902	— 0.328	51.938	54.340	2.402	57.303	57.705	— 0.402	82.427	82.277	+ 0.150
4	47.781	48.024	0.243	51.614	52.317	0.703	55.829	53.897	+ 1.932	77.430	79.034	— 1.604
6	49.290	49.292	— 0.002	49.693	52.149	2.456	51.381	53.204	— 1.823	77.480	74.953	+ 2.527
8	50.981	50.407	+ 0.574	51.383	52.716	— 1.333	54.813	54.702	+ 0.111	72.100	74.086	— 1.986
10	48.861	49.516	— 0.655	52.576	51.496	+ 1.080	57.555	56.621	+ 0.934	75.510	75.166	+ 0.344
M. & D.	48.206	48.206	± 0.000	53.197	53.197	± 0.000	56.665	56.665	± 0.000	78.662	78.662	± 0.000

Time.	May. Observed.	May. Computed.	May. Difference, O.—C.	June. Observed.	June. Computed.	June. Difference, O.—C.	July. Observed.	July. Computed.	July. Difference, O.—C.
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.
0^h	81.455	81.773	— 0.318	72.253	72.696	— 0.443	73.868	73.957	— 0.089
2	82.084	82.246	0.162	72.407	72.586	0.179	74.309	74.370	— 0.061
4	82.903	83.604	— 0.701	71.877	73.135	1.258	75.094	74.925	+ 0.169
6	85.209	84.717	+ 0.492	72.053	73.307	1.254	74.717	74.875	— 0.158
8	84.258	84.898	— 0.640	71.260	71.866	0.606	74.345	73.846	+ 0.499
10	84.832	84.889	— 0.057	69.120	69.984	— 0.864	72.771	72.712	+ 0.059
Noon.	85.739	85.002	+ 0.737	69.687	69.635	+ 0.052	71.394	72.315	— 0.921
2^h	83.868	84.316	— 0.448	71.473	70.514	0.959	73.119	72.318	+ 0.801
4	83.381	82.677	+ 0.704	71.527	71.019	0.508	71.855	72.182	— 0.327
6	81.880	81.497	+ 0.383	72.717	71.133	1.584	71.735	72.235	— 0.500
8	81.290	81.531	— 0.241	72.470	71.805	0.665	73.735	72.856	+ 0.889
10	82.071	81.820	+ 0.251	73.470	72.634	+ 0.836	73.200	73.561	— 0.361
M. & D.	83.247	83.247	± 0.000	71.693	71.693	± 0.000	73.391	73.391	± 0.000

Time.	August. Observed.	August. Computed.	August. Difference, O.—C.	November. Observed.	November. Computed.	November. Difference, O.—C.	December. Observed.	December. Computed.	December. Difference, O.—C.
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.
0^h	83.616	86.109	— 2.493	68.103	68.677	— 0.574	52.652	53.694	— 1.042
2	84.658	84.528	+ 0.130	70.073	68.295	+ 1.778	55.032	53.833	+ 1.199
4	84.003	82.491	1.512	65.833	67.735	— 1.902	53.571	54.563	— 0.992
6	82.809	80.913	1.896	67.827	66.880	+ 0.947	53.239	52.528	+ 0.711
8	78.981	78.685	0.295	66.963	66.684	+ 0.279	52.016	50.882	+ 1.134
10	75.665	75.439	0.226	66.803	67.543	— 0.740	51.981	53.344	— 1.363
Noon.	73.550	72.974	0.581	68.623	68.317	+ 0.306	58.729	56.659	+ 2.070
2^h	74.593	73.070	1.523	68.427	68.150	+ 0.277	55.267	56.563	— 1.296
4	77.252	75.368	+ 1.884	67.683	67.929	— 0.246	55.926	55.560	+ 0.366
6	78.690	78.733	— 0.043	68.057	68.550	— 0.493	56.984	57.278	— 0.294
8	80.039	82.446	2.405	70.350	69.295	+ 1.055	58.261	58.881	— 0.620
10	82.326	85.432	— 3.106	68.530	69.217	— 0.687	56.819	56.692	+ 0.127
M. & D.	79.682	79.682	± 0.000	68.106	68.106	± 0.000	55.040	55.040	± 0.000

In January both the observed and computed absolute maxima are reached at 8^h p. m. The computed minimum occurs at 2^h a. m. and the corresponding observed value an hour later. The computed and observed ranges are 4.0 and 4.9, respectively. The absolute minimum of relative humidity coincides in regard to time with the absolute minimum of the tension of vapor, the same being the case with the respective maxima.

In February both observed and computed maxima occur at 10^h a. m., the computed minimum at midnight, and the corresponding observed value two hours earlier. The observed and computed ranges are 5.8 and 4.6, respectively. The maximum and minimum of the force of vapor being reached at 3^h a. m. and 6^h p. m., respectively.

In March both the observed and computed absolute maxima occur at 10^h a. m. and the minima at 4^h a. m. The observed and computed ranges are 13.17 and 11.93, respectively. The maxima and minima of the force of vapor coincide very nearly in regard to time with those of the relative humidity.

In April both the observed and computed absolute maxima are reached at 6^h a. m. and the minima at 8^h p. m., while the tension of vapor reaches its maximum at noon and its minimum at 3^h a. m. The observed and computed ranges are 11.1 and 8.3, respectively.

In May both the observed and computed maxima occur at noon, almost coinciding in regard to time with the maximum force of vapor. The computed minimum is reached at 6^h p. m., one hour before the corresponding observed value, while the tension of vapor is at its minimum at 1^h a. m. The observed and computed ranges are 4.5 and 3.6, respectively.

In June the observed maximum is reached at 11^h p. m., the one computed occurring at midnight. The theoretical curve passes through the minimum at noon, while the actual minimum is reached an hour earlier. The observed and computed ranges are 4.3 and 3.0, respectively. According to the computed curve the maximum of the force of vapor occurs at 4^h p. m. and the minimum at 2^h a. m. Considering the march of the relative humidity by itself, independent of the force of vapor, we see the curve to follow the same general law as made out for more southern stations.

In July both the observed and computed maxima take place at 4^h a. m., while the computed minimum occurs at 4^h p. m. and the corresponding observed value one hour later. The observed and computed ranges are 3.3 and 2.7, respectively. The force of vapor reaches its maximum at 8^h a. m. and its minimum at 1^h a. m.

In August the observed and computed maxima and minima occur at 2^h a. m. and noon, respectively. The computed range is 11.6 and that derived from the observed values is 0.5 less. The maximum of the force of vapor is reached at 2^h p. m. and the minimum at 1^h a. m.

In November both the computed and observed maxima occur at 8^h p. m., the observed minimum at 4^h a. m., and the corresponding computed minimum four hours later. There is, however, a computed relative minimum, corresponding in time to the absolute minimum as observed. The computed and observed ranges are 2.3 and 4.5, respectively. The maximum of force of vapor is reached at 11^h p. m. and the minimum at 11^h a. m.

In December the absolute computed maximum occurs at 8^h p. m., corresponding to a relative observed maximum, but the absolute observed maximum is reached at noon, the difference between the absolute and relative maxima being 0.4 only. The computed minimum is reached at 8^h a. m. and the corresponding observed value one hour later. The computed and observed ranges are 7.9 and 6.7, respectively. The computed curve of the force of vapor passes the maximum at 3^h a. m and the minimum at 7^h p. m.

ATMIC WIND-ROSE OF POLARIS BAY.

In order to investigate the influence of the different winds on the relative humidity of the air, we proceeded in a similar way to that described in the discussion of the thermic wind-rose.

The values obtained in this manner are as follows:

Months.	N.	N. E.	E.	S. E.	S.	S. W.	W.	N. W.	Calm.
	p. c.	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*
November	− 2.5	− 8.4	− 4.5	....	....	+ 9.8	....	....	....
December	− 1.7	3.4	+ 0.5	....	....	5.4	....	....	− 4.3
January	....	2.3	− 0.5	− 4.0	....	9.3	....	....	2.7
February	....	4.4	+ 2.3	....	....	6.2	+ 0.7	+ 4.3	− 2.0
March	....	− 2.0	2.0	+ 1.3	....	4.0	....	− 2.3	+ 1.0
April	....	+ 1.0	+ 2.0	0.5	....	2.0	....	+ 2.0	....
May	....	− 2.3	− 1.0	+ 1.0	....	2.3	+ 1.0	....	....
June	− 1.5	2.4	− 0.5	....	+ 3.2	5.2	− 2.0	− 1.3	− 1.0
July	− 1.0	− 4.3	+ 2.0	....	1.0	5.3	....	+ 3.3	....
August	+ 3.0	+ 4.1	....	+ 4.0	+ 2.3	+ 1.3	....	....	− 3.5
Ten months	− 1.9	− 2.6	− 0.2	+ 0.4	+ 1.8	+ 5.1	− 0.2	+ 0.3	− 1.9
Winter	− 0.6	− 3.4	+ 0.8	− 1.3	....	+ 6.9	+ 0.2	+ 1.4	− 3.0
Spring	....	1.1	1.0	+ 0.9	....	2.8	+ 0.3	− 0.1	+ 0.3
Summer	+ 0.2	− 0.9	+ 0.5	+ 1.3	+ 2.2	+ 3.9	− 0.7	+ 0.7	− 0.3

If it is found difficult to deduce somewhat reliable results from the influence of the wind on the temperature from a short series of observations, it will be found more difficult still to trace the connection between the direction of the wind and atmospheric moisture, as the latter is more or less dependent on the vicinity of open water. Taking into consideration the fact that Hall's Basin and Robeson Strait were hardly ever entirely frozen over, and that the lanes of open water were constantly shifting, we have to expect that the same wind may produce contrary effects; that, for instance, a wind blowing from northeast may increase the amount of moisture contained in the air during one day while it diminishes the same during another. The analytical expression for the above wind-rose is as follows:

$$H = +0.33 + 2.66 \sin (x + 239^\circ 45') + 0.45 \sin (2x + 9^\circ 28')$$

A comparison of the following values computed by means of this formula with those above given will show that the differences are rather considerable, as can scarcely be expected otherwise:

N.	N. E.	E.	S. E.	S.	S. W.	W.	N. W.
−1.9 *p. c.*	−1.8	−1.1	+0.6	+2.7	+3.3	+1.6	−0.8

To show how little dependence can be placed on the values above given we add the following table, in the construction of which only the more prevailing winds and the calms were taken into account. We content ourselves with giving merely the effect of the wind, whether increasing (+) or decreasing (−), irrespective of the ratio of increase or decrease. If 0 be noted in any of the columns, it signifies that the winds were either entirely wanting during the period under consideration or of too short duration to give any result. Each month is divided into three equal parts, and the influence of the direction of the wind on the relative humidity during each of these periods is indicated either by a positive or negative sign or by zero:

Months.	Winds.											
	N. E.			E.			S. W.			Calm.		
1871.												
November	+	−	−	+	−	−	+	+	+	−	−	+
December	+	−	−	+	−	−	+	+	−	−	+	−
1872.												
January	−	−	+	−	−	−	+	+	−	−	−	−
February	−	−	+	−	+	+	+	+	+	+	−	+
March	+	+	+	−	+	−	+	+	+	−	+	+
April	+	−	−	+	+	−	+	+	−	+	−	+
May	−	0	+	0	−	−	0	+	+	−	−	+
June	−	−	+	−	−	−	+	+	+	−	−	+
July	−	+	+	+	−	+	+	−	+	−	+	−
August	+	+	+	+	+	−	−	+	+	−	+	−

The following table contains the correction to be applied to any hourly observation taken at Polaris Bay to obtain the mean relative humidity of the day:

Correction to be applied to any hourly observation taken at Polaris Bay to obtain the mean relative humidity of the day.

Time.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.
0^h	+ 0.01	+ 2.39	+ 0.90	+ 3.64	+ 0.40	+ 1.87	+ 1.79	− 0.56	− 0.52	− 3.94
1	− 0.59	1.13	0.89	3.37	1.35	2.45	1.70	0.62	0.57	4.34
2	− 0.89	0.01	0.87	1.56	1.72	2.70	1.17	0.72	0.96	4.98
3	+ 0.05	0.91	1.30	+ 0.16	1.53	+ 0.83	0.80	0.24	1.05	4.65
4	2.28	1.47	2.13	− 1.90	5.09	− 1.94	+ 0.35	0.19	1.74	4.32
5	1.98	1.64	1.16	2.53	3.66	3.25	− 0.57	0.30	1.56	3.44
6	0.28	1.80	+ 0.04	3.42	+ 1.98	4.53	1.96	0.36	1.37	3.12
7	1.18	2.84	− 0.02	3.17	− 0.79	3.35	1.06	− 0.31	0.74	− 0.44
8	1.15	3.02	− 1.01	2.73	2.91	1.77	1.01	+ 0.43	− 1.00	+ 0.70
9	0.19	3.05	+ 0.22	3.61	3.32	1.35	1.10	1.58	+ 0.02	2.67
10	1.31	3.06	1.82	3.92	7.63	1.28	1.58	2.57	0.58	4.01
11	+ 0.30	+ 0.04	+ 1.04	0.83	6.65	1.35	1.74	2.57	1.44	5.56
Noon.	− 0.51	− 3.69	− 1.27	− 1.42	5.44	3.44	1.49	2.00	1.96	6.12
1^h	0.40	1.89	− 0.36	+ 0.30	3.44	3.55	1.58	1.18	0.94	5.86
2	− 0.32	0.23	+ 0.64	1.34	0.64	3.77	0.62	0.22	0.23	5.09
3	+ 0.01	0.27	0.51	1.57	− 0.13	− 2.37	0.63	0.18	1.16	3.67
4	0.43	0.89	+ 0.43	1.67	+ 0.83	+ 1.23	− 0.13	+ 0.16	1.49	2.43
5	0.18	0.95	− 0.10	2.92	3.11	1.21	+ 0.34	− 0.20	1.52	1.76
6	+ 0.05	1.94	1.08	3.59	5.28	1.18	1.37	1.03	1.61	+ 0.99
7	− 1.10	2.58	1.70	2.81	4.53	3.35	1.54	1.01	+ 0.64	− 0.32
8	1.24	3.22	2.77	+ 1.90	1.85	6.56	1.96	0.78	− 0.39	0.36
9	1.43	2.18	1.78	− 2.01	+ 0.65	5.54	1.38	0.44	− 0.36	1.33
10	0.42	1.78	0.65	+ 0.71	− 0.90	3.15	1.18	1.78	+ 0.15	2.65
11	− 0.30	− 1.67	− 0.60	+ 0.29	− 0.97	+ 3.05	+ 1.12	− 1.76	+ 0.14	− 2.67

DEW-POINT.

The following two tables contain the daily and hourly means of the dew-point, extracted from the preceding general record:

Daily means of dew-point observed at Polaris Bay.

Date.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	°	°	°	°	°	°	°	°	°	°	°	°
1	− 38.9	− 32.5	− 43.1	− 8.1	− 6.6	+ 24.7	+ 33.7	+ 32.8	+ 21.5	− 1.0	+ 11.3	− 18.8
2	35.6	37.4	46.1	20.0	+ 0.7	28.4	31.9	34.3	21.2	1.0	11.3	19.3
3	30.5	41.2	46.1	24.8	− 8.8	29.2	35.2	33.3	23.2	1.0	11.3	19.5
4	37.9	38.9	40.9	30.4	6.7	30.1	34.2	33.5	24.7	1.0	11.3	− 10.3
5	37.9	36.7	26.6	13.2	− 6.8	28.5	34.2	32.8	20.5	1.0	11.3	+ 0.2
6	41.1	37.3	34.2	19.4	+ 1.1	31.8	34.2	31.2	20.8	1.0	10.3	− 16.7
7	42.6	35.4	45.8	14.9	3.2	33.4	34.2	32.2	22.2	1.0	7.8	30.9
8	42.1	33.7	45.5	8.4	5.3	31.9	34.2	32.2	21.9	1.0	2.5	34.1
9	43.8	35.4	44.9	10.1	8.7	28.7	34.2	33.1	21.4	1.0	7.5	23.0
10	37.5	23.9	43.2	28.9	7.8	28.8	34.2	32.0	16.6	1.0	+ 6.3	1.5
11	40.8	21.8	43.2	31.5	5.0	28.0	34.2	32.2	11.5	1.0	− 2.2	14.5
12	43.1	28.4	43.6	36.4	6.2	25.8	34.3	30.9	14.3	1.0	1.2	25.1
13	41.7	22.4	38.2	30.6	10.1	26.7	32.7	30.5	13.9	1.0	15.0	26.2
14	38.3	39.7	39.6	34.3	15.4	27.2	33.2	29.8	14.8	1.0	17.7	21.8
15	34.5	44.0	37.1	27.6	17.9	30.0	33.6	29.9	21.0	1.0	27.6	26.1
16	34.6	39.9	36.7	32.0	21.2	28.0	34.5	30.5	18.9	1.0	18.9	29.6
17	39.2	35.6	28.8	37.5	15.9	28.2	33.4	29.1	12.3	1.0	9.4	32.4
18	42.5	7.3	31.5	26.7	16.7	28.0	32.8	29.4	21.5	1.0	5.5	34.2
19	37.9	22.7	29.7	25.2	18.8	28.9	33.2	29.5	17.9	1.0	16.1	13.8
20	22.2	38.0	23.3	19.2	21.1	28.6	33.5	31.5	25.4	1.0	27.3	23.3
21	8.4	39.9	35.5	− 3.8	25.5	26.8	34.6	32.0	28.6	1.0	30.2	33.0
22	4.0	44.3	35.1	+ 13.0	25.7	27.3	37.0	30.4	26.1	1.0	30.2	33.3
23	21.2	43.2	33.3	11.4	23.3	29.7	36.7	31.3	21.9	1.0	25.8	39.2
24	29.9	43.9	27.9	+ 8.9	24.7	30.0	35.6	29.7	19.8	1.0	31.1	40.5
25	32.0	22.5	31.5	− 5.2	25.1	31.4	35.4	28.7	18.6	1.0	34.5	40.2
26	30.6	22.4	14.7	4.7	23.1	31.6	35.9	28.3	12.9	1.0	31.3	36.3
27	40.5	33.5	2.6	10.1	20.1	28.3	38.1	30.8	20.9	1.0	34.6	37.7
28	38.5	29.6	2.1	− 4.2	20.0	30.3	34.6	30.5	25.9	1.0	13.8	37.4
29	28.0	− 31.2	31.4	+ 2.4	17.8	30.9	35.1	23.2	16.8	1.0	0.8	32.8
30	15.5	....	4.0	− 3.1	19.6	+ 33.7	33.6	23.1	+ 9.9	1.0	− 11.4	32.1
31	− 17.4	....	− 14.5	....	+ 20.7	....	+ 33.0	+ 24.1	....	− 1.0	....	− 34.5
Means.	− 33.19	− 32.99	− 32.24	− 15.86	+ 12.64	+ 29.15	+ 34.35	+ 30.37	+ 19.56	− 1.00	− 9.77	− 26.45

Hourly means of dew-point observed at Polaris Bay.

Time.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Mean.
	°	°	°	°	°	°	°	°	°	°	°	°	
0^h	− 33.33	− 33.09	− 32.40	− 21.85	+ 9.27	+ 28.47	+ 34.03	+ 28.94	+ 19.56	− 1.00	− 8.83	− 26.84	− 3.08
1	34.20	32.42	32.25	20.32	6.28	28.42	33.61	28.52	19.56	1.00	8.46	25.63	3.15
2	33.76	32.22	35.07	17.50	6.79	28.31	33.94	29.10	19.56	1.00	8.62	25.30	2.97
3	32.87	33.41	35.52	24.57	10.60	29.02	34.09	29.54	19.56	1.00	9.99	28.95	2.78
4	33.00	31.85	34.13	17.38	7.75	28.82	34.21	30.19	19.56	1.00	10.44	26.13	2.77
5	33.30	32.46	33.42	16.88	12.03	29.25	34.29	30.67	19.56	1.00	10.64	25.99	2.32
6	33.21	31.87	32.67	15.01	15.92	29.26	34.62	30.88	19.56	1.00	10.00	26.16	1.64
7	33.39	32.55	34.85	24.04	13.24	28.68	34.63	31.34	19.95	1.00	10.13	26.40	2.87
8	32.43	32.25	30.92	13.67	14.18	29.01	35.26	31.60	19.56	1.00	10.12	27.13	1.49
9	34.79	32.00	31.96	13.56	14.70	29.16	34.22	31.86	19.56	1.00	10.34	27.07	1.77
10	33.43	31.52	29.12	12.53	15.19	29.31	34.69	32.45	19.56	1.00	10.03	27.04	1.12
11	32.89	33.31	35.20	9.79	15.31	29.36	35.02	31.03	19.56	1.00	10.25	26.63	1.56
Noon.	32.71	32.91	31.84	8.76	15.06	30.05	34.57	31.30	19.56	1.00	9.79	26.13	1.05
1^h	35.10	33.88	29.09	15.30	15.24	29.95	34.57	31.70	19.56	1.00	10.23	26.26	1.65
2	32.94	33.43	30.73	18.08	14.95	29.84	34.84	31.22	19.56	1.00	9.43	26.47	1.81
3	32.77	33.89	30.84	10.92	17.05	29.67	34.68	31.21	19.56	1.00	9.83	26.93	1.17
4	33.07	33.69	31.04	10.76	14.42	29.29	34.41	30.85	19.93	1.00	10.12	26.13	1.41
5	33.07	33.49	31.69	11.78	13.59	29.39	34.34	31.23	19.56	1.00	10.05	26.66	1.64
6	32.48	34.63	32.63	14.39	13.04	29.49	34.25	30.53	19.56	1.00	9.45	26.15	1.99
7	33.41	33.72	31.66	16.36	12.55	28.62	34.14	29.24	19.56	1.00	9.31	26.00	2.27
8	32.13	34.09	32.15	14.69	12.12	28.72	34.03	29.04	19.56	1.00	9.33	24.97	2.07
9	33.06	33.46	32.23	15.23	11.79	29.08	33.81	29.71	19.56	1.00	8.40	26.64	1.72
10	32.40	32.79	31.96	19.43	11.72	29.33	34.12	28.64	19.56	1.00	9.15	26.06	2.37
11	− 33.04	− 33.03	− 31.50	− 17.92	+ 10.67	+ 29.17	+ 34.08	+ 28.76	+ 18.71	− 1.00	− 9.67	− 27.07	− 2.65
M	− 33.19	− 32.99	− 32.24	− 15.86	+ 12.64	+ 29.15	+ 34.35	+ 30.37	+ 19.56	− 1.00	− 9.77	− 26.45	− 2.05

ANNUAL FLUCTUATION OF THE TEMPERATURE OF THE DEW-POINT AT POLARIS BAY.

The following table contains the observed and computed temperatures of the dew-point, and also the differences between the observed and computed values:

Months.	Observed.	Computed.	Difference, O.—C.
	°	°	°
January	— 33.46	— 32.88	— 0.57
February	33.07	34.46	+ 1.39
March	31.49	30.68	— 0.81
April	— 15.68	— 16.52	+ 0.84
May	+ 13.29	+ 12.83	+ 0.46
June	29.37	30.69	— 1.32
July	34.34	36.19	— 1.85
August	30.35	29.04	+ 1.31
September	+ 19.24	+ 19.25	— 0.01
October	— 1.02	— 1.03	+ 0.01
November	9.93	10.60	+ 0.67
December	— 26.57	— 26.45	— 0.12
Spring	— 11.29	— 11.46	+ 0.17
Summer	+ 31.35	+ 31.97	— 0.62
Autumn	+ 2.76	+ 2.54	+ 0.22
Winter	— 31.03	— 31.26	+ 0.23
Means	— 2.05	— 2.05	± 0.00

The analytical elements and expression from which the above values have been derived are as follows:

n	a_n	b_n	B_n	C_n
				° ′ ″
1	— 26.52	— 17.03	+ 31.52	237 17 35
2	+ 4.48	+ 1.66	+ 4.32	69 40 7
3	— 1.19	— 1.02	+ 1.57	310 36 5

$$D = -2.05 + 31.52 \sin (x + 237^\circ\ 17'\ 35'') + 4.32 \sin (2x + 69^\circ\ 40'\ 7'') + 1.57 \sin (3x + 310^\circ\ 36'\ 5'')$$
$$x = 30^\circ, 60^\circ, \ldots.$$

For better comparison the differences between the computed temperature of the air and the computed temperature of the dew-point are given in the following table:

	°		°		°
January	10.27	May	5.46	September	2.14
February	9.71	June	4.94	October	0.15
March	9.05	July	3.15	November	0.99
April	8.64	August	8.56	December	11.93

	°
Spring	7.72
Summer	5.55
Autumn	1.10
Winter	10.63
Year	6.26

From the above table it appears that the difference between the temperature of the air and the temperature of the dew-point is greatest in December and least in October. During the different months, the temperature of the dew-point is above the annual mean in May, June, July, September, October, and November; while it is below the same during the six remaining months. Likewise, the mean temperature of the dew-point is below the annual mean in winter and spring, and above the same in summer and autumn. If the curves representing the annual fluctuation of the temperature of the air and of the dew-point were represented simultaneously on one diagram, we should perceive them to run nearly parallel from the latter part of March till the middle of September, while they would diverge more or less during the rest of the period.

DIURNAL FLUCTUATION OF THE DEW-POINT AT POLARIS BAY.

The analytical elements and expression representing the diurnal fluctuation of the dew-point are as follows:

n	a	b_n	B_n	C_n
				° ′
1	− 0.72597	− 0.23302	0.762	252 12
2	− 0.5725	− 0.5160	0.190	200 41
3	− 0.06347	− 0.6821	0.093	222 56
4	− 0.11410	− 0.17609	0.209	212 57

$$D = -2.055 + 0.762 \sin (x + 252^\circ 12') + 0.190 \sin (2x + 200^\circ 41') + 0.093 \sin (3x + 222^\circ 56') + 0.209 \sin (4x + 212^\circ 57')$$
$$x = 15^\circ, 30^\circ, \ldots .$$

By means of the above formula, the following values were obtained:

Time.	Observed.	Computed.	Difference, O.—C.	Time.	Observed.	Computed.	Difference, O.—C.
	°	°	°		°	°	°
0^h	− 3.08	− 3.02	− 0.06	Noon.	− 1.05	− 1.49	+ 0.44
1	3.15	3.26	+ 0.11	1^h	1.65	1.56	− 0.09
2	2.97	3.15	0.18	2	1.81	1.52	− 0.29
3	2.78	2.80	+ 0.02	3	1.17	1.44	+ 0.27
4	2.77	2.47	− 0.30	4	1.41	1.46	0.05
5	2.32	2.31	− 0.01	5	1.64	1.67	+ 0.03
6	1.64	2.27	+ 0.63	6	1.99	1.94	− 0.05
7	2.87	2.15	− 0.74	7	2.27	2.08	0.19
8	1.49	1.87	+ 0.3[illegible]	8	2.07	2.06	− 0.01
9	1.77	1.51	− 0.26	9	1.72	2.02	+ 0.30
10	1.12	1.28	+ 0.16	10	2.37	2.07	− 0.30
11	− 1.56	− 1.29	− 0.27	11	− 2.65	− 2.57	− 0.08

Mean observed = 2°.05; mean computed = 2°.05; difference = ± 0.00.

According to the formula the temperature of the dew-point reaches its maximum of —1°.28 at about 10^h a. m., and its minimum of —3°.26 at about 1^h a. m., thus exhibiting a diurnal range of 1°.98, which is by 0°.12 greater than the diurnal range of the temperature of the air. The corresponding thermal curve passes through the maximum at 11^h 10^m a. m., and through the minimum at 0^h 56^m a. m.

The differences between the computed temperature of the dew-point and the computed temperature of the air are as follows:

	°		°		°		°
0^h	6.30	6^h	5.97	Noon.	6.48	6^h	6.31
1	6.44	7	6.36	1^h	6.53	7	6.22
2	6.56	8	6.44	2	6.59	8	6.05
3	6.20	9	6.48	3	6.40	9	5.79
4	5.97	10	6.31	4	6.31	10	5.76
5	5.99	11	6.33	5	6.30	11	6.05

Mean difference = 6°.26.

It will be seen that the greatest difference between the temperature of the air and that of the dew-point during the twenty-four hours exists at 2^h p. m., being 6°.59; while the smallest, of 5°.76, occurs at about 10^h p. m.

The following table contains the hourly variation of the temperature of the dew-point during the four seasons. The seasons were not computed according to the formula, but it was thought sufficient, as the time at our disposal was rather limited, to combine the computed hourly means of the respective months constituting the different seasons, and to take the mean of the same.

Time.	Spring.			Summer.			Autumn.			Winter.		
	Observed.	Computed.	Difference, O.—C.	Observed.	Computed.	Difference, O.—C.	Observed.	Computed.	Difference, O.—C.	Observed.	Computed.	Difference, O.—C.
	°	°	°	°	°	°	°	°	°	°	°	°
0h	—14.98	—14.66	— 0.32	+30.48	+30.55	— 0.07	+ 3.24	+ 3.17	+ 0.07	—31.09	—30.85	— 0.24
1	15.43	15.23	— 0.20	30.18	30.47	0.29	3.37	3.16	0.21	30 75	30.97	+ 0.22
2	15.26	15.60	+ 0.34	30.45	30.50	— 0.05	3.31	3.11	+ 0.20	30.43	30.90	+ 0.47
3	16.50	15.45	— 1.05	30.88	30.65	+ 0.23	2.86	3.03	— 0.17	31.74	30.86	— 0.88
4	14.59	14.72	+ 0.13	31.07	30.89	0.18	2.71	2.88	— 0.17	30.33	30.68	+ 0.35
5	12.76	13.55	0.79	31.74	31.14	0.60	2.64	2.51	+ 0.13	30.58	30.62	0.04
6	10.59	12.17	+ 1.58	31.59	31.37	0.22	2.85	2.79	0.06	30.41	30.60	+ 0.19
7	15.22	11.32	— 3.90	31.55	31.53	0.02	2.94	2.76	0.18	30.78	30.64	— 0.14
8	10.14	10.62	+ 0.48	31.96	31.61	0.35	2.81	2.75	+ 0.06	30.60	30.73	+ 0.13
9	10.27	10.18	— 0.09	31.75	31.65	0.10	2.74	3.07	— 0.33	31.29	30.83	— 0.46
10	8.82	9.93	+ 1.11	32.15	31.71	0.44	2.84	2.77	+ 0.07	30.66	30.92	+ 0.26
11	9.89	10.06	0.17	32.14	31.88	0.26	2.77	2.73	+ 0.04	30.94	30.98	0.04
Noon.	8.51	9.69	+ 1.18	31.97	31.89	0.08	2.92	3.09	— 0.17	30.58	31.01	+ 0.43
1h	9.72	9.28	— 0.44	32.07	32.00	+ 0.07	2.78	2.87	— 0.09	31.75	31.08	— 0.67
2	11.29	9.21	— 2.08	31.97	32.02	— 0.05	3.04	2.87	+ 0.17	30.95	31.12	+ 0.17
3	8.24	9.37	+ 1.13	31.85	31.96	0.11	2.91	2.93	— 0.02	31.20	31.15	— 0.05
4	9.13	9.79	0.66	31.52	31.81	— 0.29	2.94	2.99	0.05	30.96	31.19	+ 0.23
5	9.96	10.37	+ 0.41	31.65	31.60	+ 0.05	2.84	3.34	— 0.50	31.07	31.09	+ 0.02
6	11.33	10.79	— 0.54	31.42	31.38	+ 0.04	3.04	3.00	+ 0.04	31.09	30.99	— 0.10
7	11.82	11.46	— 0.36	30.67	31.19	— 0.52	3.08	2.99	0.09	31.04	30.86	— 0.18
8	11.57	11.89	+ 0.32	30.60	31.05	0.45	3.07	2.99	0.08	30.40	30.76	+ 0.36
9	11.89	12.28	+ 0.39	30.87	30.91	0.04	3.05	3.02	0.03	31.05	30.72	— 0.33
10	13.22	12.84	— 0.38	30.69	30.80	— 0.11	3.14	3.07	+ 0.07	30.42	30.76	+ 0.34
11	—12.92	—13.59	+ 0.67	+30.67	+30.59	+ 0.08	+ 2.96	+ 3.12	— 0.16	—31.05	30.85	— 0.20
M. & D.	—11.82	—11.82	± 0.00	+31.30	+31.30	± 0.00	+ 2.95	+ 2.95	± 0.00	—30.88	—30.88	± 0.00

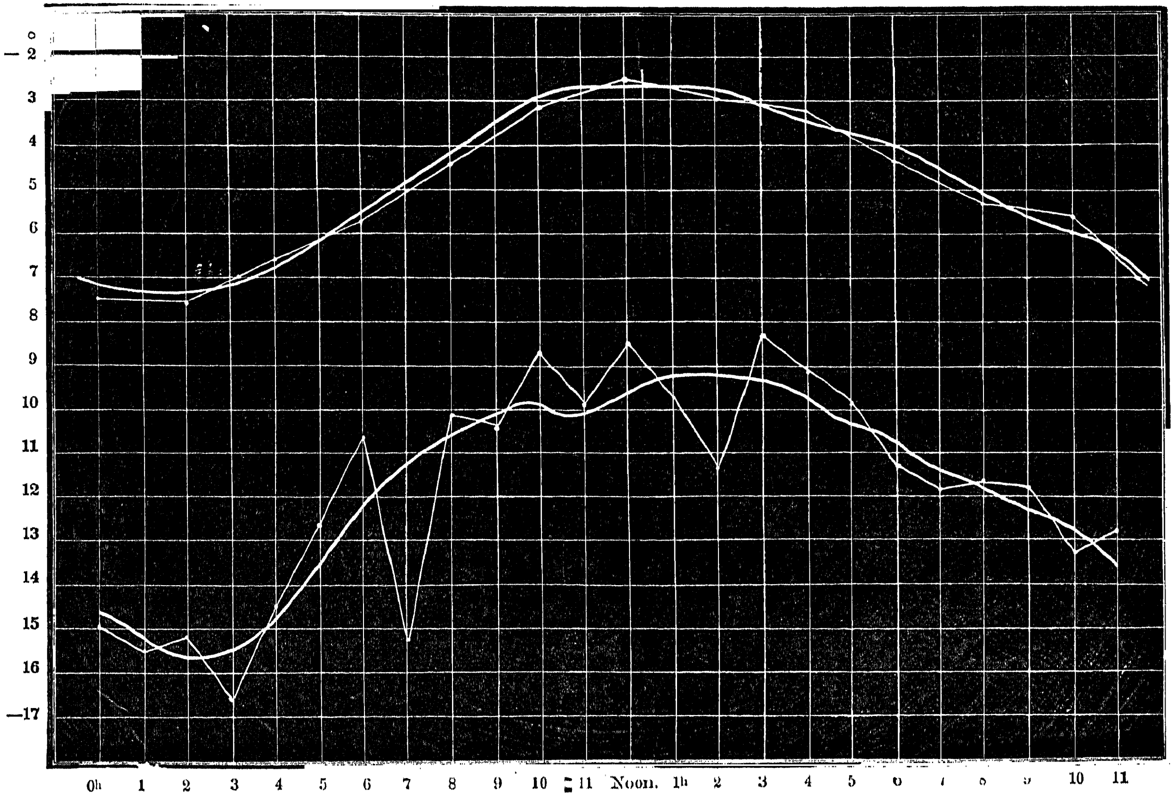
The mean temperature of the dew-point during spring is —11°.82, or 8°.08 lower than the mean temperature of the air. For better comparison the differences between the computed temperature of the air and the computed temperature of the dew-point are given in the annexed table. As the thermal curves for the seasons were only computed for every other hour, our table contains only the bihourly values.

Difference between the temperature of the air and the temperature of the dew-point during spring.

0h	2	4	6	8	10	Noon.	2h	4	6	8	10
7°.58	8°.36	7°.86	6°.73	5°.45	6°.94	6°.91	6°.39	6°.31	6°.77	6°.83	6°.85

On the following diagram the thermal curve and the corresponding curve of the temperature of the dew-point are represented simultaneously.

Diurnal fluctuation of the temperature of the air and temperature of the dew-point during spring, 1872.



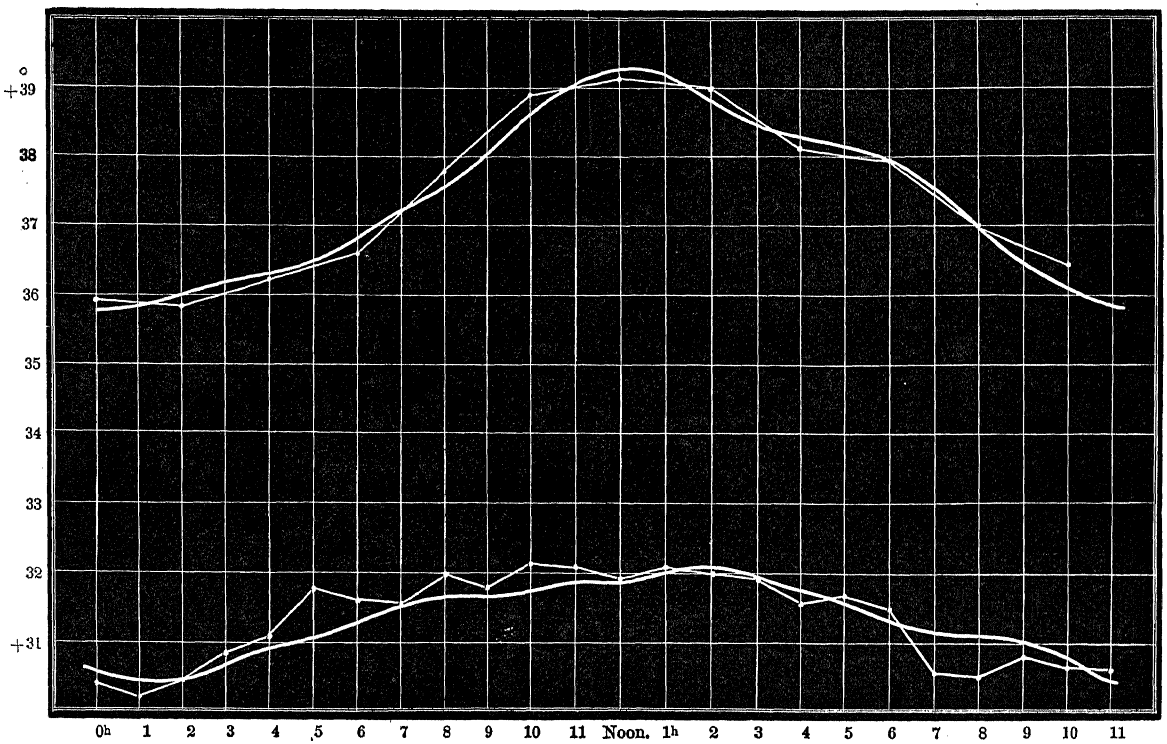
It will be seen that the computed temperature of the dew-point reaches its maximum between 1^h and 2^h p. m., while the minimum occurs at 2^h a. m. The maximum and minimum, as observed, occur at 3^h p. m. and 3^h a. m., respectively. The thermal curve, and that representing the fluctuation of the dew-point, run almost parallel with each other; they approach each other most closely at 8^h a. m., and recede most from each other at 2^h a. m. The probable error of any single observation is 0°.10, that of the mean being 0°.02.

The following values represent the difference between the computed temperature of the air and the computed temperature of the dew-point during summer:

0^h	2	4	6	8	10	Noon.	2^h	4	6	8	10
5°.20	5°.46	5°.43	5°.44	6°.06	6°.96	7°.22	6°.84	6°.52	6°.43	5°.94	5°.31

The annexed diagram exhibits the—

Diurnal fluctuation of the temperature of the air and temperature of the dew-point during summer, 1872.



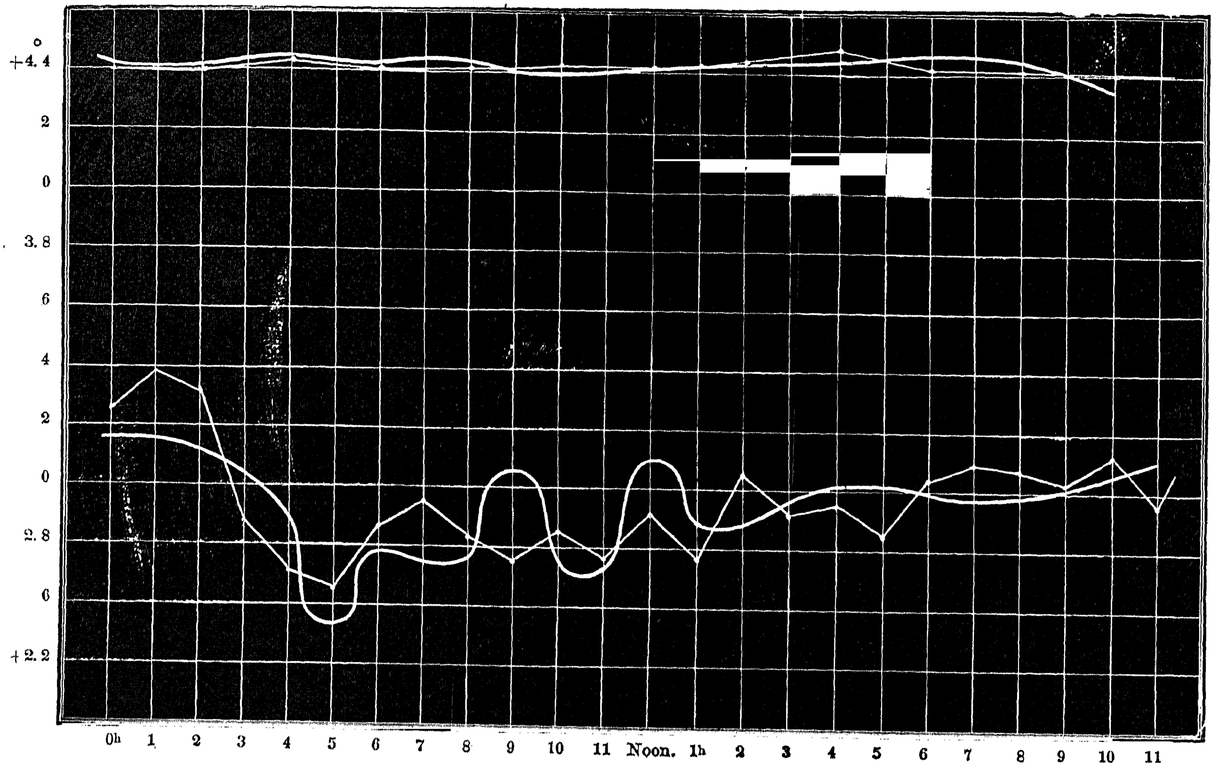
The mean temperature of the dew-point during summer is 19°.48 higher than during the preceding season, differing by 6°.22 from that of the air; while during spring the difference was 0°.86 greater. The computed curve reaches its maximum at 2^h p. m. and its minimum at 1^h a. m.; the range being 1°.75. The observed curve passes through the maximum at 10^h a. m., while the time of its minimum coincides with that of the computed value. The thermal curve and the curve showing the fluctuation of the dew-point approach each other most closely at midnight, while they are farthest apart at noon.

During autumn, the differences between the temperature of the air and the temperature of the dew-point are as follows:

0h	2	4	6	8	10	Noon.	2h	4	6	8	10
1°.23	1°.29	1°.55	1°.62	1°.67	1°.63	1°.32	1°.57	1°.48	1°.43	1°.43	1°.30

The following diagram represents the—

Diurnal fluctuation of the temperature of the air and temperature of the dew-point during autumn, 1871.



While the curve exhibiting the march of the temperature is but slightly bent, owing to the insignificance of the thermal wave during the latter part of this season, the temperature of the dew-point shows a more considerable range. The computed curve passes through the maximum at 0^h a. m. and through the minimum at 5^h a. m., the latter coinciding in regard to time with its corresponding observed value, while the observed maximum occurs at 1^h a. m. Besides the absolute maximum there are four relative maxima, occurring at 6^h a. m., 9^h a. m., noon, and between 4^h and 5^h p. m., respectively, while the relative minima are reached at about $7\frac{1}{2}^h$ a. m., $10\frac{1}{2}^h$ a. m., $1\frac{1}{2}^h$ p. m., and at 7^h p. m., respectively. The observed and computed ranges are 0°.53 and 0°.66, respectively. The thermal curve and the curve representing the diurnal fluctuation of the dew-point approach each other most closely at midnight, as was the case in summer, while their greatest separation occurs at 10^h a. m.

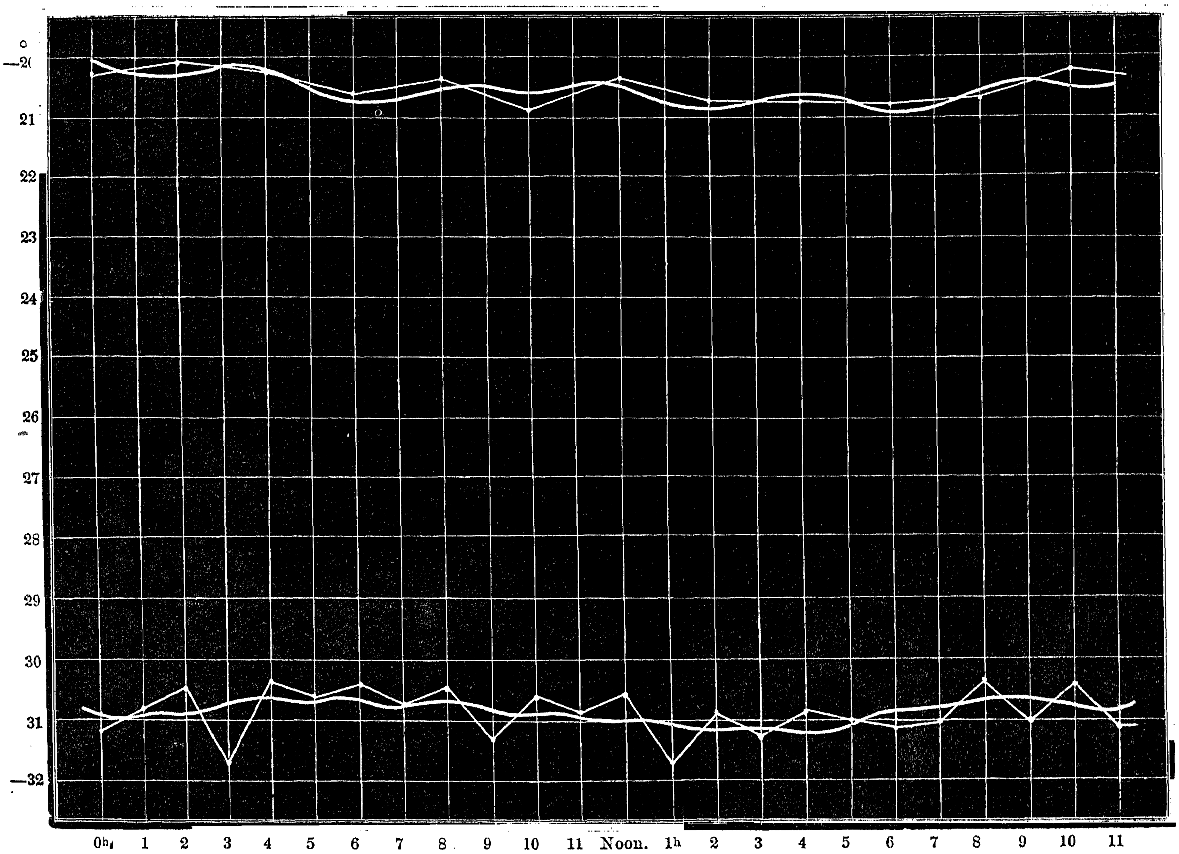
It remains now to consider the diurnal fluctuation of the dew-point during winter.

The following differences between the temperature of the dew-point and the temperature of the air were found to exist:

0^h	2	4	6	8	10	Noon.	2^h	4	6	8	10
10°.76	10°.63	10°.49	10°.05	10°.32	10°.32	10°.62	10°.43	10°.58	10°.12	10°.26	10°.26

The following diagram exhibits the curve of the dew-point and the thermal curve during winter:

Diurnal fluctuation of the temperature of the air and temperature of the dew-point during winter, 1871–'72.



While, during the last season, the diurnal range of the temperature of the dew-point was greater than that of the air, we now see the contrary to take place. The temperature of the dew-point, according to the computed curve, reaches its maximum at 6^h a. m. and its minimum at 4^h p. m. Between the absolute maximum and minimum the curve is seen to oscillate in an irregular manner, thus exhibiting a number of relative maxima and minima which sometimes correspond to similar maxima and minima of the thermal curve. The difference between the temperature of the air and the temperature of the dew-point is greatest at midnight and least at 6^h a. m. The computed and observed ranges of the temperature of the dew-point are $0^\circ.59$ and $1^\circ.35$, while those of the air are $0^\circ.78$ and $0^\circ.83$, respectively.

In order to discuss the diurnal fluctuation of the temperature during each of the different months, each month was treated analytically. The following analytical elements and expressions were used in this computation:

January.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	+ 0.19	— 0.21	+ 0.27	138 6 6
2	— 0.17	— 0.22	+ 0.28	216 49 44
3	+ 0.01	— 0.17	+ 0.17	178 21 28

$$D = -33.20 + 0.27 \sin (x + 138^\circ\ 6'\ 6'') + 0.28 \sin (2x + 216^\circ\ 49'\ 44'') + 0.17 \sin (3x + 178^\circ\ 21'\ 28'')$$
$$x = 15^\circ, 30^\circ, \ldots$$

February.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 0.20	+ 0.90	+ 0.90	347 28 16
2	+ 0.17	− 0.11	+ 0.20	122 30 0
3	+ 0.09	+ 0.13	+ 0.17	34 41 43

$$D = -33.00 + 0.90 \sin (x + 347^\circ 28' 16'') + 0.20 \sin (2x + 122^\circ 30' 0'') + 0.17 \sin (3x + 34^\circ 41' 43'')$$
$$x = 15^\circ, 30^\circ, \ldots .$$

March.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 0.67	− 0.93	+ 1.15	215 46 12
2	+ 0.55	− 0.14	+ 0.57	104 16 52
3	+ 0.74	+ 0.04	+ 0.74	86 59 0

$$D = -32.24 + 1.15 \sin (x + 215^\circ 46' 12'') + 0.57 \sin (2x + 104^\circ 16' 52'') + 0.74 \sin (3x + 86^\circ 59' 0'')$$
$$x = 15^\circ, 30^\circ, \ldots$$

April.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 3.17	− 2.73	+ 4.19	229 40 30
2	+ 0.20	− 0.63	+ 0.67	162 23 15
3	− 0.39	+ 0.30	+ 0.49	307 34 0

$$D = -15.86 + 4.19 \sin (x + 229^\circ 40' 30'') + 0.67 \sin (2x + 162^\circ 23' 15'') + 0.49 \sin (3x + 307^\circ 34' 0'')$$
$$x = 15^\circ, 30^\circ, \ldots$$

May.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 3.09	− 1.51	+ 3.45	244 11 0
2	− 0.27	− 1.00	+ 1.02	195 15 18
3	+ 0.83	− 0.65	+ 1.05	128 4 0

$$D = +12.64 + 3.45 \sin (x + 244^\circ 11' 0'') + 1.02 \sin (2x + 195^\circ 15' 18'') + 1.05 \sin (3x + 128^\circ 4' 0'')$$
$$x = 15^\circ, 30^\circ, \ldots$$

June.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 0.40	− 0.28	+ 0.49	235 0 30
2	+ 0.04	+ 0.11	+ 0.12	19 3 28
3	+ 0.07	− 0.24	+ 0.25	163 4 55

$$D = +29.15 + 0.49 \sin (x + 235^\circ 0' 30'') + 0.12 \sin (2x + 19^\circ 3' 28'') + 0.25 \sin (3x + 163^\circ 4' 55'')$$
$$x = 15^\circ, 30^\circ, \ldots$$

July.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 0.560	− 0.001	+ 0.561	183 12 19
2	− 0.010	− 0.050	+ 0.050	193 10 21
3	+ 0.111	− 0.031	+ 0.111	105 15 30

$$D = +34.35 + 0.561 \sin (x + 183^\circ 12' 19'') + 0.050 \sin (2x + 193^\circ 10' 21'') + 0.111 \sin (3x + 105^\circ 15' 30'')$$
$$x = 15^\circ, 30^\circ, \ldots$$

August.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 1.53	− 0.03	+ 1.56	269 30 0
2	− 0.24	− 0.16	+ 0.29	236 18 30
3	+ 0.10	+ 0.10	+ 0.14	43 33 39

$$D = +30.39 + 1.56 \sin (x + 269^\circ 30' 0'') + 0.29 \sin (2x + 236^\circ 18' 30'') + 0.14 \sin (3x + 43^\circ 33' 39'')$$
$$x = 15^\circ, 30^\circ, \ldots$$

September.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 0.20	− 0.43	+ 0.49	203 34 57
2	− 0.19	− 0.21	+ 0.29	222 1 54
3	+ 0.56	+ 0.17	+ 0.59	72 43 0

$$D = +17.32 + 0.49 \sin (x + 203^\circ 34' 57'') + 0.29 \sin (2x + 222^\circ 1' 54'') + 0.59 \sin (3x + 72^\circ 43' 0'')$$
$$x = 15^\circ, 30^\circ, \ldots$$

November.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	+ 0.74	− 0.11	+ 0.75	98 27 30
2	+ 0.22	+ 0.21	+ 0.30	46 20 0
3	− 0.01	− 0.08	+ 0.08	4 34 26

$$D = -9.77 + 0.75 \sin (x + 98^\circ 27' 30'') + 0.30 \sin (2x + 46^\circ 20' 0'') + 0.08 \sin (3x + 4^\circ 34' 26'')$$
$$x = 15^\circ, 30^\circ \ldots$$

December.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	+ 0.19	− 0.21	+ 0.29	137 51 44
2	− 0.08	− 0.09	+ 0.12	224 19 5
3	− 0.08	− 0.20	+ 0.22	202 32 18

$$D = -26.45 + 0.29 \sin (x + 137^\circ 51' 44'') + 0.12 \sin (2x + 224^\circ 19' 5'') + 0.22 \sin (3x + 202^\circ 32' 18'')$$
$$x = 15^\circ, 30^\circ, \ldots$$

The following table contains the values computed by means of the preceding analytical expressions; also the observed values and the differences between the observed and computed means:

DEW-POINT.

Time.	January.			Time.	March.		
	Observed.	Computed.	Difference, O.—C.		Observed.	Computed.	Difference O.—C.
	°	°	°		°	°	°
0^h	— 33.33	— 33.46	+ 0.13	0^h	— 32.40	— 32.17	— 0.23
1	34.20	33.59	— 0.61	1	32.25	33.10	+ 0.85
2	33.76	33.56	— 0.20	2	35.07	34.00	— 1.07
3	32.87	33.39	+ 0.52	3	35.52	34.52	— 1.00
4	33.00	33.07	+ 0.07	4	34.13	34.42	+ 0.29
5	33.30	33.06	— 0.24	5	33.42	33.76	0.34
6	33.21	33.05	0.16	6	32.67	32.89	+ 0.22
7	33.39	33.18	— 0.21	7	34.85	32.12	— 2.73
8	32.43	33.37	+ 0.94	8	30.92	31.73	+ 0.81
9	34.79	33.52	— 1.27	9	31.96	31.69	— 0.27
10	33.43	33.59	+ 0.16	10	29.12	31.77	+ 2.65
11	32.89	33.55	0.66	11	35.20	32.76	— 2.44
Noon.	32.71	33.36	+ 0.65	Noon.	31.84	31.49	— 0.35
1^h	35.10	33.39	— 1.71	1^h	29.09	31.08	+ 1.99
2	32.94	33.29	+ 0.35	2	30.73	30.76	+ 0.03
3	32.77	33.23	0.46	3	30.84	30.76	— 0.08
4	33.07	33.29	+ 0.22	4	31.04	31.16	+ 0.12
5	33.07	33.01	— 0.06	5	31.69	31.82	+ 0.13
6	32.48	32.84	+ 0.36	6	32.63	32.52	— 0.11
7	33.41	32.67	— 0.74	7	31.66	32.66	+ 1.00
8	32.13	32.59	+ 0.46	8	32.15	32.47	+ 0.32
9	33.06	32.66	— 0.40	9	32.23	31.99	— 0.24
10	32.40	32.87	+ 0.47	10	31.96	31.61	— 0.35
11	— 33.04	— 33.20	+ 0.16	11	— 31.50	— 31.62	+ 0.12
Means.	— 33.20	— 33.20	± 0.00	Means.	— 32.24	— 32.24	± 0.00

Time.	February.			Time.	April.		
	Observed.	Computed.	Difference, O.—C.		Observed.	Computed.	Difference, O.—C.
	°	°	°		°	°	°
0^h	— 33.09	— 32.71	— 0.38	0^h	— 21.85	— 20.45	— 1.40
1	32.42	32.60	+ 0.18	1	20.32	20.14	— 0.18
2	32.22	32.52	+ 0.30	2	17.50	20.17	+ 2.67
3	33.41	32.63	— 0.78	3	24.57	20.06	— 4.51
4	31.85	32.57	+ 0.72	4	17.38	19.75	+ 2.37
5	32.46	32.43	— 0.03	5	16.88	19.05	2.17
6	31.87	32.22	+ 0.35	6	15.01	17.38	+ 2.37
7	32.55	32.03	— 0.52	7	24.04	16.54	— 7.50
8	32.25	31.97	— 0.28	8	13.67	15.02	+ 1.35
9	32.00	32.07	+ 0.07	9	13.56	13.49	— 0.07
10	31.52	32.35	+ 0.83	10	12.53	12.49	— 0.04
11	33.31	32.75	— 0.56	11	9.79	12.07	+ 2.28
Noon.	32.91	33.12	+ 0.21	Noon.	8.76	12.75	+ 3.99
1^h	33.88	33.42	— 0.46	1^h	15.30	12.48	— 2.82
2	33.43	33.62	+ 0.19	2	18.08	12.82	— 5.26
3	33.89	33.74	— 0.15	3	10.92	12.96	+ 2.04
4	33.69	33.83	+ 0.14	4	10.76	12.97	2.21
5	33.49	33.91	+ 0.42	5	11.78	13.06	+ 1.28
6	34.63	33.96	— 0.67	6	14.39	12.85	— 1.54
7	33.72	33.95	+ 0.23	7	16.36	14.28	— 2.08
8	34.09	33.82	— 0.27	8	14.69	15.51	+ 0.82
9	33.46	33.57	+ 0.11	9	15.23	16.93	+ 1.70
10	32.79	33.25	+ 0.46	10	19.43	18.25	— 1.18
11	— 33.03	— 32.92	— 0.11	11	— 17.92	— 19.25	+ 1.33
Means.	— 33.00	— 33.00	± 0.00	Means.	— 15.86	— 15.86	± 0.00

DEW-POINT—Continued.

Time.	May. Observed.	May. Computed.	May. Difference, O.—C.	Time.	July. Observed.	July. Computed.	July. Difference, O.—C.
	°	°	°		°	°	°
0h	+ 9.27	+ 8.65	+ 0.62	0h	+ 34.03	+ 34.20	− 0.17
1	6.28	7.56	− 1.28	1	33.61	33.96	− 0.35
2	6.79	7.36	− 0.57	2	33.94	33.79	+ 0.15
3	10.60	8.24	+ 2.36	3	34.09	33.71	0.38
4	7.75	10.00	− 2.25	4	34.21	33.75	0.46
5	12.03	12.16	− 0.13	5	34.29	33.83	0.46
6	15.92	13.76	+ 2.16	6	34.62	33.95	0.67
7	13.24	14.71	− 1.47	7	34.63	34.05	0.58
8	14.18	14.88	− 0.70	8	35.26	34.09	1.17
9	14.70	14.65	+ 0.05	9	34.22	34.11	0.11
10	15.19	14.47	0.72	10	34.69	34.16	0.53
11	15.31	14.65	+ 0.66	11	35.02	34.54	0.48
Noon.	15.06	15.17	− 0.11	Noon.	34.57	34.44	+ 0.13
1h	15.24	15.74	0.50	1h	34.57	34.64	− 0.07
2	14.95	15.96	− 1.01	2	34.84	34.81	0.03
3	17.05	15.60	+ 1.45	3	34.68	34.92	0.24
4	14.42	14.76	− 0.34	4	34.41	34.94	0.53
5	13.59	13.76	− 0.17	5	34.34	34.89	0.55
6	13.04	12.98	+ 0.06	6	34.25	34.82	0.57
7	12.55	12.55	± 0.00	7	34.14	34.76	0.62
8	12.12	12.36	− 0.24	8	34.03	34.72	0.69
9	11.79	12.07	− 0.28	9	33.81	34.61	0.86
10	11.72	11.33	+ 0.39	10	34.12	34.56	0.44
11	+ 10.67	+ 10.09	+ 0.58	11	+ 34.08	+ 34.14	− 0.06
Means.	+ 12.64	+ 12.64	± 0.00	Means.	+ 34.35	+ 34.35	± 0.00

Time.	June. Observed.	June. Computed.	June. Difference, O.—C.	Time.	August. Observed.	August. Computed.	August. Difference, O.—C.
	°	°	°		°	°	°
0h	+ 28.47	+ 28.66	− 0.19	0h	+ 28.94	+ 28.80	+ 0.14
1	28.42	28.54	0.12	1	28.52	28.92	− 0.40
2	28.31	28.56	− 0.25	2	29.10	29.16	− 0.06
3	29.02	28.72	+ 0.30	3	29.54	29.52	+ 0.02
4	28.82	28.93	− 0.11	4	30.19	29.99	0.20
5	29.25	29.07	+ 0.17	5	30.67	30.53	+ 0.14
6	29.26	29.12	+ 0.14	6	30.88	31.05	− 0.17
7	28.68	29.06	− 0.38	7	31.34	31.49	0.15
8	29.01	29.01	± 0.00	8	31.60	31.74	− 0.14
9	29.16	29.04	+ 0.12	9	31.86	31.80	+ 0.06
10	29.31	29.23	+ 0.08	10	32.45	31.75	+ 0.70
11	29.36	29.52	− 0.16	11	31.03	31.57	− 0.54
Noon.	30.05	29.83	+ 0.22	Noon.	31.30	31.41	− 0.11
1h	29.95	30.00	− 0.05	1h	31.70	31.35	+ 0.35
2	29.84	29.96	0.12	2	31.22	31.30	− 0.08
3	29.67	29.74	0.07	3	31.21	31.23	0.02
4	29.29	29.42	− 0.13	4	30.85	31.06	− 0.21
5	29.39	29.16	+ 0.23	5	31.23	30.75	+ 0.48
6	29.49	29.02	+ 0.47	6	30.53	30.31	+ 0.22
7	28.62	29.00	− 0.38	7	29.24	29.81	− 0.57
8	28.72	29.07	0.35	8	29.04	29.36	− 0.32
9	29.08	29.10	− 0.02	9	29.71	29.02	+ 0.69
10	29.33	29.03	+ 0.30	10	28.64	28.82	− 0.18
11	+ 29.17	+ 28.87	+ 0.30	11	+ 28.76	+ 28.75	+ 0.01
Means.	+ 29.15	+ 29.15	± 0.00	Means.	+ 30.39	+ 30.39	± 0.00

DEW-POINT—Continued.

Time.	September.			Time.	November.		
	Observed.	Computed.	Difference, O.— C.		Observed.	Computed.	Difference, O.— C.
	°	°	°		°	°	°
0h	+ 17.00	+ 17.26	— 0.26	0h	— 8.83	— 8.72	— 0.11
1	17.00	16.82	+ 0.18	1	8.46	8.81	+ 0.30
2	17.00	16.38	0.62	2	8.62	9.06	+ 0.44
3	17.00	16.18	0.82	3	9.99	9.43	— 0.56
4	17.00	16.37	0.63	4	10.44	9.82	— 0.62
5	17.00	16.88	+ 0.12	5	10.64	11.17	+ 0.53
6	17.00	17.48	— 0.48	6	10.00	10.42	0.42
7	19.95	17.87	+ 2.08	7	10.13	10.52	0.39
8	17.00	17.86	— 0.86	8	10.12	10.52	+ 0.40
9	17.00	17.52	0.52	9	10.34	9.46	— 0.88
10	17.00	17.06	— 0.06	10	10.03	10.39	+ 0.36
11	17.00	16.77	+ 0.23	11	10.25	10.30	0.05
Noon.	17.00	16.84	+ 0.16	Noon.	9.79	10.22	+ 0.43
1h	17 00	17.26	— 0.26	1h	10.23	9.95	— 0.28
2	17.00	17.84	0.84	2	9.43	10.06	+ 0.63
3	17.00	18.27	— 1.27	3	9.83	9.97	+ 0.14
4	19 93	18.39	+ 1.54	4	10.12	9.88	— 0.24
5	17.00	18.12	— 1.12	5	10.05	8.81	— 1.24
6	17.00	17.70	0.70	6	9.45	9.72	+ 0.27
7	17.00	17.32	0.32	7	9.31	9.60	0.29
8	17.00	17.18	0.18	8	9.33	9.44	0.11
9	17.00	17.28	0.28	9	8.40	9.22	+ 0.82
10	17.00	17.45	— 0.45	10	9.15	8.99	— 0.16
11	+ 18.71	+ 17.49	+ 1.22	11	— 9.67	— 8.80	— 0.87
Means.	+ 17.32	+ 17.32	± 0.00	Means.	— 9.77	— 9.77	± 0.00

Time.	December.		
	Observed.	Computed.	Difference, O.— C.
	°	°	°
0h	— 26.84	— 26.38	— 0.46
1	25.63	26.71	+ 1.08
2	25.30	26.63	+ 1.34
3	28.95	26.57	— 2.38
4	26.13	26.39	+ 0.26
5	25.99	26.38	0.39
6	26.16	26.53	0.37
7	26.40	26.69	+ 0.29
8	27.13	26.86	— 0.27
9	27.07	26.90	0.17
10	27.04	26.80	— 0.24
11	26.63	26.65	+ 0.02
Noon.	26.13	26.55	0.42
1h	26.26	26.43	+ 0.17
2	26.47	26.45	— 0.02
3	26.93	26.47	— 0.46
4	26.13	26.46	+ 0.33
5	26.66	26.36	— 0.30
6	26.15	26.16	+ 0.01
7	26.00	25.97	— 0.03
8	24.97	25.87	+ 0.90
9	26.64	25.94	— 0.70
10	26.06	26.16	+ 0.10
11	— 27.07	— 26.42	— 0.65
Means.	— 26.45	— 26.45	± 0.00

In January the differences between the computed temperature of the air and the computed temperature of the dew-point are as follows:

	°		°		°		°
0h	9.85	6h	10.75	Noon.	11.06	6h	10.67
1	10.58	7	10.87	1h	10.98	7	10.36
2	10.66	8	11.09	2	10.87	8	10.25
3	10.98	9	11.58	3	11.54	9	10.56
4	11.52	10	11.36	4	11.64	10	11.07
5	11.55	11	11.09	5	11.43	11	11.46

The greatest difference occurs at 4^h p. m., while the closest approximation of the two curves toward each other takes place at midnight. The computed curve representing the temperature of the dew-point passes through the maximum of $-32^\circ.59$ at 8^h p. m., the minimum of $-33^\circ.59$ being reached at 10^h a. m., thus showing a range of $1^\circ.0$. The thermal curve passes through the maximum at 5^h a. m. and through the minimum at midnight, while the maximum and minimum of relative humidity occur at 8^h p. m. and 2^h a. m., respectively; the former thus coinciding in regard to time with the maximum temperature of the dew-point.

In February the differences between the computed temperature of the air and the computed temperature of the dew-point were found as follows:

	°		°		°		°
0h	10.51	6h	8.83	Noon.	9.61	6h	9.09
1	10.39	7	8.62	1h	9.75	7	9.74
2	10.25	8	8.45	2	10.00	8	10.22
3	10.31	9	8.46	3	10.24	9	10.46
4	9.59	10	8.74	4	10.33	10	10.51
5	9.16	11	9.35	5	10.22	11	10.45

The greatest and least differences between the temperature of the air and the temperature of the dew-point occur at 10^h p. m. and 8^h a. m., respectively. The computed curve illustrating the march of the temperature of the dew-point passes through the maximum of $-31^\circ.97$ at 8^h a. m. and through the minimum of $-33^\circ.96$ at 6^h p. m., thus showing a range of $1^\circ.99$, which is by $0^\circ.99$ greater than the range during the last month. The thermal curve passes through the maximum at midnight and through the minimum at 6^h p. m.; the maximum and minimum of relative humidity occurring at 10^h a. m. and midnight, respectively.

In March the differences between the computed temperature of the air and the computed temperature of the dew-point are as follows:

	°		°		°		°
0h	7.57	6h	7.93	Noon	9.33	6h	9.43
1	8.89	7	7.93	1h	8.93	7	9.26
2	10.09	8	7.16	2	8.22	8	8.60
3	10.57	9	7.25	3	8.21	9	8.38
4	10.43	10	8.79	4	8.19	10	7.63
5	9.13	11	10.50	5	9.26	11	8.26

From the above values it appears that the curve representing the fluctuation of the dew-point approaches the thermal curve closest at 8^h a. m., when the difference between the temperature of the air and the temperature of the dew-point is $7^\circ.16$, while the greatest difference of $10^\circ.57$ exists at 3^h a. m. The maximum temperature of the dew-point occurs at $2^h\ 30^m$ p. m., and the minimum at 3^h a. m., while the maximum and minimum of relative humidity are reached at 10^h a. m. and 4^h a. m., respectively. The thermal curve passes through the maximum at 1^h p. m. and through the minimum at 6^h a. m. The range of the temperature of the dew-point during this month is $3^\circ.76$, thus being by $1^\circ.77$ greater than during the preceding one.

In April the differences between the computed temperature of the air and the computed temperature of the dew-point are as follows:

	°		°		°		
0h	9.11	6h	9.38	Noon.	8.76	6h	6.14
1	9.33	7	8.54	1h	8.14	7	6.71
2	8.18	8	7.97	2	7.80	8	7.50
3	8.03	9	7.21	3	7.85	9	8.86
4	8.71	10	7.36	4	6.88	10	9.41
5	10.77	11	7.68	5	6.94	11	8.59

The greatest and least differences between the temperature of the air and the temperature of the dew-point are 10°.77 and 6°.14, respectively, occurring at 5h a. m. and 6h p. m., respectively. The temperature of the dew-point reaches its maximum of 12°.49 at 10h a. m., and its minimum of 20°.45 at midnight, thus showing a range of 7°.96. The maximum and minimum of relative humidity are reached at 6h a. m. and 8h p. m., respectively, while the thermal curve passes through the maximum at noon and through the minimum at 3h a. m.

In May the differences between the two curves in question are as follows:

	°		°		°		°
0h	4.96	6h	4.73	Noon.	3.40	6h	4.31
1	6.13	7	2.52	1h	2.96	7	4.53
2	6.83	8	3.27	2	2.75	8	3.42
3	6.35	9	3.83	3	2.92	9	3.99
4	5.19	10	4.14	4	3.74	10	4.41
5	3.72	11	4.02	5	4.09	11	5.39

The greatest and least differences between the temperature of the air and the temperature of the dew-point are 6°.83 and 2°.52, respectively, occurring at 2h a. m. and 7h a. m., respectively. The temperature of the dew-point reaches its maximum of + 15°.96 at 2h p. m. and its minimum of + 7°.36 at 2h a. m., thus showing a range of 8°.50. The maximum relative humidity occurs at noon and the minimum at 6h p. m., while the thermal curve passes the maximum and minimum at 1h p. m. and at midnight, respectively.

In June the differences between the two curves in question are as follows:

	°		°		°		°
0h	7.35	6h	7.27	Noon.	7.66	6h	7.24
1	7.27	7	7.42	1h	7.23	7	6.91
2	6.84	8	7.66	2	6.85	8	6.82
3	6.85	9	8.27	3	6.80	9	6.78
4	7.08	10	8.44	4	7.00	10	7.2
5	7.27	11	8.13	5	7.14	11	7.57

The mean temperature of the dew-point during this month is 29°.15, being 5°.29 lower than the temperature of the air. The greatest and least differences between the temperature of the air and the temperature of the dew-point occur at 10h a. m. and 9h p. m., respectively, being 8°.44 and 6°.78, respectively; thus showing a range of 1°.66. The temperature of the dew-point reaches its maximum at 1h p. m. and its minimum at 1h a. m., while the maximum and minimum relative humidity occur at midnight and noon, respectively. The thermal curve passes through the maximum and minimum at 11h a. m. and 2h p. m., respectively.

In July the differences are as follows:

	°		°		°		°
0h	5.01	6h	5.43	Noon.	5.92	6h	4.77
1	5.01	7	5.87	1h	5.66	7	4.55
2	5.14	8	6.21	2	5.39	8	4.49
3	5.23	9	5.94	3	5.23	9	4.39
4	4.95	10	6.01	4	5.06	10	4.34
5	5.08	11	5.85	5	4.92	11	5.00

It will be seen that the greatest and least differences between the temperature of the air and the temperature of the dew-point occur at 8h a. m. and 10h p. m., respectively. The temperature of the dew-point reaches its maximum at 4h p. m., while the minimum occurs at 3h a. m.; the former being 34°.94, the latter 33°.71, thus giving a range of 1°.23. The maximum and minimum relative humidity are reached at 4h a. m. and 4h p. m., while the thermal curve passes through the maximum at 11h a. m. and through the minimum at 8h p. m.

For August the differences in question were found as follows:

	°		°		°		°
0h	4.20	6h	2.80	Noon.	8.20	6h	6.61
1	4.08	7	3.49	1h	8.53	7	5.69
2	4.01	8	4.25	2	8.43	8	5.37
3	4.02	9	5.02	3	8.00	9	5.12
4	3.71	10	7.18	4	7.09	10	4.59
5	3.21	11	7.71	5	6.88	11	4.21

The greatest and least differences between the temperature of the dew-point and the temperature of the air of 8°.53 and 2°.80, respectively, occur at 1^h p. m. and 6^h a. m., respectively. The temperature of the dew-point reaches its maximum of 31°.80 at 9^h a. m., while the minimum of 28°.80 occurs at midnight, thus presenting a range of 3°.0. The maximum and minimum relative humidity are reached at 2^h a. m. and at noon, respectively, while the corresponding thermal curve passes the maximum at 1^h p. m. and the minimum at 11^h p. m.

In September the differences between the temperature of the air and the temperature of the dew-point were found as follows:

	°		°		°		°
0^h	5.97	6^h	5.76	Noon.	6.39	6^h	5.51
1	6.42	7	5.42	1^h	5.98	7	5.97
2	6.86	8	5.45	2	5.40	8	6.05
3	7.06	9	5.71	3	4.98	9	6.01
4	6.87	10	6.17	4	5.22	10	5.81
5	6.38	11	6.46	5	5.20	11	4.35

The greatest and least differences between the temperature of the air and the temperature of the dew-point of 7°.06 and 4°.35, respectively, occur at 3^h a. m. and 11^h p. m., respectively. The temperature of the dew-point is at its maximum of 18°.39 at 4^h p. m., its minimum of 16°.18 being reached at 3^h a. m., thus showing a range of 2°.21. The maximum and minimum of the temperature of the air occur at 4^h p. m. and 11^h p. m., respectively.

For reasons already stated we shall omit October in this synopsis.

Proceeding to November, we get the following differences between the temperature of the air and the temperature of the dew-point:

	°		°		°		°
0^h	0.19	6^h	1.72	Noon.	1.59	6^h	1.10
1	0.22	7	1.81	1^h	1.27	7	1.08
2	0.44	8	1.82	2	1.37	8	0.94
3	0.81	9	0.80	3	1.30	9	0.72
4	1.19	10	1.74	4	1.23	10	0.41
5	2.52	11	1.65	5	0.16	11	0.41

It will be seen that the greatest and least differences between the two curves in question occur at 5^h a. m. and 5^h p. m., respectively. The temperature of the dew-point reaches its maximum of —8°.72 at midnight, while the minimum of —11°.17 occurs at 5^h a. m., thus showing a range of 2°.35. The maximum and minimum relative humidity are reached at 8^h p. m. and 8^h a. m., respectively, while the thermal curve passes its maximum at 11^h a. m. and its minimum at 5^h a. m.

The differences in December are as follows:

	°		°		°		°
0^h	11.53	6^h	11.44	Noon.	10.17	6^h	9.38
1	11.49	7	10.61	1^h	10.15	7	9.86
2	11.36	8	11.10	2	10.22	8	9.80
3	10.84	9	11.28	3	10.61	9	9.98
4	10.87	10	11.17	4	10.44	10	10.21
5	11.49	11	11.30	5	10.23	11	10.71

The greatest and least differences between the temperature of the air and the temperature of the dew-point are 11°.53 and 9°.80, respectively, occurring at midnight and 8^h p. m., respectively. The temperature of the dew-point passes through the maximum of —25°.87 at 8^h p. m., the minimum of —26°.90 being reached at 9^h a. m., thus showing a range of 1°.03. The maximum and minimum relative humidity occur at 8^h p. m. and 8^h a. m., respectively, and the thermal curve passes through the maximum at midnight, reaching its minimum at noon.

The following table of corrections may be found useful:

Corrections to be applied to any hourly observation taken at Polaris Bay to obtain the mean temperature of the dew-point of the day.

Time.	January.	February.	March.	April.	May.	June.	July.	August.	November.	December.
	°	°	°	°	°	°	°	°	°	°
0^h	— 0.14	— 0.10	— 0.12	— 5.99	— 3.37	— 0.68	— 0.32	— 1.45	+ 0.86	— 0.39
1	1.01	+ 0.57	0.87	4.46	6.36	0.73	0.74	1.87	1.23	+ 0.82
2	— 0.57	0.77	2.79	1.64	5.85	0.84	0.61	1.29	+ 1.07	+ 1.15
3	+ 0.32	0.58	3.24	8.71	2.04	0.13	0.26	0.85	— 0.30	— 2.50
4	+ 0.19	0.14	1.85	1.52	4.89	— 0.33	0.14	— 0.20	0.75	+ 0.32
5	— 0.11	0.53	1.14	— 1.02	— 0.61	+ 0.10	— 0.06	+ 0.28	0.95	0.46
6	0.02	1.12	0.39	+ 0.85	+ 3.28	+ 0.11	+ 0.27	0.49	0.31	0.29
7	— 0.20	0.44	— 2.57	— 8.18	0.60	— 0.47	0.28	0.95	0.44	+ 0.05
8	+ 0.76	0.74	+ 1.36	+ 2.19	1.54	— 0.14	+ 0.91	1.21	0.43	— 0.68
9	— 1.60	0.99	0.32	2.30	2.06	+ 0.01	— 0.13	1.47	0.65	0.62
10	— 0.24	+ 1.47	+ 3.16	3.33	2.55	0.16	+ 0.34	2.06	0.34	0.59
11	+ 0.30	— 0.32	— 2.92	6.07	2.67	0.21	0.67	0.64	0.56	— 0.18
Noon.	+ 0.48	+ 0.08	+ 0.44	7.10	2.42	0.90	0.22	0.91	0.10	+ 0.32
1^h	— 1.91	— 0.89	3.19	+ 0.56	2.60	0.80	0.22	1.31	— 0.54	+ 0.19
2	+ 0.25	0.44	1.55	— 2.22	2.31	0.69	0.49	0.83	+ 0.26	— 0.02
3	0.42	0.90	1.44	+ 4.94	4.41	0.52	0.33	0.82	— 0.14	— 0.48
4	0.12	0.70	1.24	5.10	1.78	0.14	+ 0.06	0.46	0.43	+ 0.32
5	0.12	0.50	+ 0.59	4.08	0.95	0.24	— 0.01	0.84	— 0.36	— 0.21
6	+ 0.71	1.64	— 0.35	+ 1.47	+ 0.40	+ 0.34	0.10	+ 0.14	+ 0.24	+ 0.30
7	— 0.22	0.73	+ 0.62	— 0.50	— 0.09	— 0.53	0.21	— 1.15	0.38	0.45
8	+ 1.06	1.10	0.13	+ 1.17	0.52	0.43	0.32	1.35	0.36	+ 1.48
9	0.13	— 0.47	0.05	+ 0.63	0.85	— 0.07	0.54	0.68	1.29	— 0.19
10	0.79	+ 0.20	0.32	— 3.57	0.92	+ 0.18	0.23	1.75	0.54	+ 0.39
11	+ 0.15	— 0.04	+ 0.78	— 2.06	— 1.97	+ 0.02	— 0.27	— 1.63	+ 0.02	— 0.62

HYGROMETRICAL OBSERVATIONS AT POLARIS HOUSE.

The following pages contain the record of the hygrometrical observations made at Polaris House. It need hardly be stated that the mode of observation in this instance is the same as mentioned before in the general introduction to this part.

Date.	NOVEMBER, 1872.														
	1.					2.					3.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0^h	− 4.4	− 4.8	85.1	0.0300	− 7.8	− 0.1	− 0.7	81.2	0.0351	− 4.6	+16.9	+16.6	94.9	0.0887	+15.8
1	4.6	4.9	89.0	.0310	7.1	+ 0.2	− 0.4	81.4	.0357	4.2	16.8	16.2	89.8	.0835	14.4
2	4.7	5.1	84.8	.0295	8.1	1.1	+ 0.5	82.0	.0374	3.1	17.1	16.4	88.3	.0832	14.4
3	4.5	4.9	85.0	.0298	7.9	1.2	0.6	82.1	.0376	3.0	17.0	16.4	89.8	.0843	14.6
4	4.4	4.8	85.1	.0300	7.8	1.1	0.7	88.1	.0401	1.6	17.2	16.5	88.3	.0837	14.5
5	4.6	4.9	89.0	.0310	7.1	1.1	0.6	88.1	.0397	1.8	18.1	17.3	86.9	.0859	15.1
6	4.0	4.7	74.3	.0268	10.1	1.1	0.5	82.0	.0374	3.1	17.8	16.9	85.2	.0830	14.3
7	3.1	3.7	79.3	.0296	8.2	3.4	2.7	81.0	.0412	− 1.3	18.1	16.9	80.5	.0795	13.3
8	2.6	3.4	72.6	.0277	9.4	11.7	11.2	90.1	.0663	+ 6.6	18.7	17.5	80.8	.0821	14.0
9	2.5	3.3	72.7	.0278	9.3	12.6	12.0	88.3	.0678	9.8	19.1	18.0	82.7	.0855	14.9
10	1.9	2.7	69.6	.0279	9.4	12.1	11.5	88.2	.0660	9.3	18.3	17.7	90.3	.0900	16.1
11	2.5	3.3	72.7	.0278	9.3	11.5	10.8	86.0	.0627	8.1	19.2	18.1	82.8	.0860	15.0
Noon.	4.4	4.9	81.1	.0287	8.7	11.4	10.9	90.0	.0654	6.7	19.1	18.1	84.2	.0871	15.4
1^h	3.6	4.4	71.6	.0260	10.7	15.3	14.9	92.9	.0806	13.6	18.7	18.0	88.8	.0902	16.1
2	4.4	5.1	72.9	.0261	10.6	10.8	10.3	89.7	.0639	6.9	18.2	17.6	90.2	.0896	16.0
3	5.6	6.2	76.8	.0255	11.2	14.5	13.9	89.0	.0745	11.9	18.3	17.8	91.9	.0916	16.5
4	4.5	5.1	76.9	.0272	9.9	16.1	15.4	87.9	.0792	13.3	18.5	17.8	88.7	.0895	15.8
5	4.3	4.9	78.1	.0276	9.6	16.0	15.3	87.8	.0788	13.2	18.7	18.1	90.4	.0918	16.5
6	4.2	4.7	81.3	.0291	8.5	15.7	15.1	89.4	.0791	13.2	19.3	18.7	90.7	.0946	17.2
7	3.5	4.1	77.9	.0289	8.6	15.7	15.0	87.7	.0776	12.8	19.3	18.8	92.3	.0964	17.6
8	3.0	3.7	75.3	.0284	8.9	15.9	15.2	87.8	.0784	13.1	19.3	18.8	92.3	.0964	17.6
9	2.7	3.5	71.5	.0276	9.5	16.3	15.9	93.1	.0846	14.7	19.1	18.0	82.7	.0855	14.9
10	0.9	1.7	75.1	.0309	7.2	16.5	16.0	91.4	.0839	14.5	18.9	18.0	85.7	.0878	15.5
11	− 0.5	− 1.0	84.0	0.0357	− 4.2	+16.7	+16.0	88.1	0.0816	+13.9	+19.0	+18.2	87.3	0.0900	+16.0
Means.			78.82	0.0288	− 4.55			87.22	0.0623	+ 6.79			87.73	0.0877	+15.48

Date.	NOVEMBER, 1872.														
	4.					5.					6.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0^h	+19.3	+18.6	89.0	0.0929	+16.9	+ 3.1	+ 2.7	89.0	0.0445	+ 0.6	+ 0.1	− 0.7	76.7	0.0334	− 5.6
1	20.2	19.0	81.8	.0890	15.8	3.4	2.9	86.4	.0439	0.3	− 0.8	1.4	80.6	.0338	5.4
2	20.2	19.0	81.8	.0890	15.8	4.5	3.9	84.3	.0450	+ 0.8	0.5	1.3	75.5	.0316	6.6
3	20.2	18.9	80.4	.0874	15.5	4.0	3.3	81.4	.0425	− 0.5	0.3	1.0	78.0	.0334	5.6
4	20.3	19.5	87.9	.0961	17.4	6.1	5.6	87.7	.0504	+ 3.3	0.6	1.5	71.5	.0302	7.8
5	20.0	19.1	86.2	.0930	16.9	7.3	6.9	90.6	.0550	5.1	− 0.7	1.7	68.3	.0286	8.9
6	19.3	18.4	85.9	.0897	16.1	12.1	11.8	94.2	.0707	10.8	+ 0.4	− 0.6	93.7	.0399	1.8
7	19.3	18.6	89.0	.0929	16.9	10.6	10.1	89.6	.0627	5.6	1.6	+ 0.9	79.6	.0372	3.3
8	19.2	18.0	81.1	.0843	14.6	10.1	9.8	93.8	.0645	8.7	2.0	1.1	74.1	.0353	4.4
9	18.8	17.6	80.8	.0825	14.1	9.7	9.2	89.2	.0604	5.0	2.6	1.8	77.5	.0379	2.9
10	18.1	17.8	95.1	.0940	17.0	9.7	9.0	85.0	.0574	6.1	2.4	1.6	77.3	.0374	3.1
11	17.4	16.9	91.7	.0877	15.5	9.2	8.8	91.2	.0603	7.2	2.9	2.2	80.5	.0400	1.9
Noon.	17.6	16.9	88.4	.0854	14.9	8.4	7.9	88.8	.0567	5.8	3.2	2.3	75.3	.0379	3.0
1^h	18.1	17.4	88.5	.0877	15.4	8.2	7.7	88.7	.0562	5.6	3.3	2.4	75.4	.0381	2.9
2	17.1	16.5	89.9	.0847	14.7	7.4	7.0	90.6	.0552	5.2	3.3	2.7	83.6	.0422	0.6
3	17.5	17.0	91.7	.0881	15.6	7.6	7.1	88.4	.0544	5.0	2.1	1.3	77.0	.0368	3.5
4	17.7	17.0	88.4	.0858	15.0	7.0	6.4	85.7	.0513	3.6	1.8	1.0	76.8	.0362	3.8
5	17.0	16.4	89.8	.0843	14.6	7.3	6.8	88.2	.0536	4.6	1.3	0.6	79.3	.0365	3.7
6	13.0	12.8	96.2	.0753	12.1	7.1	6.4	83.5	.0503	3.2	1.4	+ 0.7	79.4	.0367	3.6
7	11.9	11.2	86.1	.0637	8.4	5.8	5.3	87.6	.0497	+ 2.9	+ 0.4	− 0.3	78.4	.0347	4.8
8	6.1	5.5	85.3	.0490	2.6	1.9	+ 1.3	82.5	.0391	− 2.2	− 0.3	1.0	78.0	.0334	5.6
9	6.3	5.5	80.6	.0467	1.7	0.3	− 0.2	84.6	.0372	3.3	0.1	0.7	81.3	.0351	4.6
10	6.4	5.7	83.1	.0483	+ 2.4	0.3	− 0.2	84.6	.0372	3.3	1.0	1.7	76.6	.0321	6.5
11	+ 6.4	+ 5.3	73.4	0.0428	− 0.4	+ 0.9	± 0.0	72.9	0.0330	− 5.8	− 2.1	− 2.7	79.3	0.0313	− 7.0
Means.			86.34	0.0800	+12.89			87.02	0.0513	+ 3.09			78.07	0.0354	− 4.45

NOVEMBER, 1872.

Date.	7.					8.					9.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°
0h	— 1.7	— 2.6	69.8	0.0280	— 9.3	— 5.5	— 6.2	71.8	0.0244	—12.1	— 1.7	— 2.2	83.0	0.0335	— 5.5
1	2.3	3.0	75.0	.0296	8.1	4.7	5.3	76.7	.0270	10.1	1.4	2.0	80.0	.0326	6.1
2	1.7	2.1	86.6	.0347	4.7	5.4	5.8	84.3	.0284	8.8	1.4	1.8	86.7	.0353	4.3
3	1.1	1.6	83.4	.0346	4.8	6.5	7.0	79.0	.0255	11.2	1.0	1.5	83.5	.0348	4.7
4	— 0.7	— 1.2	83.8	.0353	4.4	5.4	5.9	80.1	.0272	9.9	0.7	1.3	80.7	.0340	5.3
5	+ 1.2	+ 0.5	79.2	.0363	3.8	6.5	7.0	79.0	.0255	11.2	1.2	1.7	83.3	.0344	4.9
6	1.9	1.1	76.9	.0364	3.7	6.0	6.5	79.5	.0263	10.5	1.5	2.0	83.0	.0338	5.3
7	2.6	1.9	80.2	.0393	2.2	5.5	6.1	75.9	.0257	11.0	1.5	1.9	86.6	.0351	4.5
8	3.3	2.5	78.1	.0395	2.0	1.7	2.2	83.0	.0335	5.5	2.6	3.2	78.8	.0304	7.5
9	2.1	1.3	77.0	.0368	3.5	2.3	2.8	83.0	.0323	6.2	3.6	4.1	81.9	.0300	7.8
10	2.1	1.4	79.8	.0382	2.7	5.3	5.2	66.6	.0237	12.7	4.0	4.3	89.2	.0320	6.4
11	2.3	1.7	82.8	.0399	1.7	1.2	1.3	96.8	.0396	2.0	3.1	3.7	78.3	.0296	8.2
Noon.	2.3	1.7	82.8	.0399	1.7	2.1	2.6	83.0	.0327	5.9	2.4	3.0	79.0	.0307	7.3
1h	2.2	1.4	77.1	.0370	3.3	2.5	3.1	78.9	.0306	7.4	3.5	4.0	82.0	.0302	7.7
2	2.3	1.5	77.2	.0372	3.2	2.5	3.0	83.0	.0319	6.5	1.7	2.2	83.0	.0335	5.5
3	2.1	1.4	79.8	.0382	2.7	2.1	2.6	83.0	.0327	5.9	2.2	2.8	79 2	.0311	7.1
4	2.3	1.6	79.9	.0386	2.5	3.0	3.7	74.3	.0283	8.9	2.5	3.0	83.0	.0319	6.5
5	2.4	+ 1.7	80.0	.0388	2.4	3.5	4.3	70.7	.0262	10.5	2.3	2.8	83.0	.0323	6.2
6	+ 0.3	— 0.3	81.4	.0358	4.1	3.0	3.7	74.3	.0283	8.9	2.3	3.0	83.0	.0319	6.5
7	— 1.4	2.1	75.9	.0313	6.9	3.1	3.7	78.3	.0296	8.2	2 5	3.2	75.8	.0292	8.3
8	3.0	3.7	74.3	.0283	8.9	3.2	3.8	78.2	.0294	8.3	3.9	4.7	70.3	.0256	11.0
9	3.3	4.1	70.9	.0265	10.3	3.1	3.7	78.3	.0296	8.2	4.3	4.9	77.1	.0276	9.6
10	4.5	5.2	72.8	.0259	10.8	3.2	3.7	82.3	.0306	7.3	4.4	5.1	72.9	.0291	10.7
11	— 5.2	— 5.9	72.1	0.0248	—11.7	— 2.1	— 2.7	79.3	0.0313	— 7.0	— 4.5	— 5.3	69.4	0.0246	—11.9
Means.			78.28	0.0356	— 4.39			79.14	0.0292	— 8.51			80.53	0.0314	— 7.0

NOVEMBER, 1872.

Date.	10.					11.					12.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°
0h	— 4.9	— 5.6	72.4	0.0253	—11.4	— 7.5	— 8.0	78.0	0.0240	—12.2	—12.5	—13.3	57.4	0.0137	—23.0
1	5.0	5.7	72.3	.0251	11.5	9.6	10.2	71.8	.0199	16.0	12.5	13.1	67.9	.0163	20.0
2	5.0	5.6	76.4	.0264	10.5	10.6	11.2	70.8	.0187	17.4	12.8	13.6	57.8	.0134	23.5
3	6.3	6.8	79.2	.0258	10.8	8.2	8.8	73.2	.0217	14.3	13.9	14.7	54.6	.0123	25.2
4	4.7	5.4	72.6	.0256	11.1	9.3	10.0	67.0	.0190	17.0	14.5	15.0	72.0	.0155	20.9
5	4.1	4.6	81.4	.0292	8.4	9.7	10.4	66.6	.0185	17.6	14.7	15.3	64.7	.0140	22.7
6	3 4	3.9	82.1	.0303	7.6	10.0	10.7	66.3	.0181	18.0	14.5	15.1	64.9	.0142	22.5
7	4.0	4.7	73.3	.0268	10.1	9.8	10.4	71.6	.0196	16.3	14.7	15.3	64.7	.0140	22.7
8	5.4	6.0	76.0	.0258	10.9	11.5	12.0	75.0	.0188	17.2	15.5	16.2	57.6	.0119	25.7
9	5.8	6.6	67.2	.0224	13.8	10.8	11.6	60.4	.0158	20.5	15.0	15.9	46.3	.0099	28.8
10	5.4	6.2	67.8	.0233	12.9	12.4	12.9	74.1	.0177	18.3	14.8	15.4	64.6	.0139	22.8
11	3.2	3.8	78.2	.0294	8.3	11.9	12.4	74.6	.0183	17.6	15.3	15.0	60.0	.0132	23.9
Noon.	2.8	3.5	74.5	.0287	8.6	11.3	11.8	75.2	.0190	16.8	12.7	13.6	52.8	.0123	25.0
1h	3.7	4.5	70.5	.0258	10.8	11.0	11.7	65.3	.0168	19.5	11.2	11.8	70.2	.0179	18.3
2	3.6	4.4	70.6	.0260	10.7	10.5	11.2	65.8	.0174	18.7	12.1	12.7	68.6	.0167	19.5
3	4.6	5.3	72.7	.0257	11.0	11.5	12.2	64.6	.0163	19.9	12.6	13.4	57.2	.0136	23.2
4	5.5	6.3	67.7	.0232	13.5	12.3	12.9	68.2	.0165	19.8	13.0	13.7	62.3	.0145	22.2
5	6.2	6.9	71.1	.0231	12.9	12.0	12.7	63.6	.0156	20.8	13.1	13.7	67.3	.0156	20.9
6	6.5	7.2	70.8	.0229	13.3	11.8	12.7	53.6	.0133	23.6	12.2	12.8	68.4	.0166	19.6
7	6.3	7.0	71.0	.0232	13.0	11.9	12.7	58.6	.0141	22.2	13.5	14.3	55.4	.0127	24.6
8	8.6	9.3	67.7	.0200	16.2	13.5	14.1	66.8	.0152	21.4	13.2	14.0	56.0	.0130	24.1
9	7.3	8.0	70.0	.0217	14.4	12.8	13.5	62.5	.0147	21.9	12.2	12.8	68.4	.0166	19.6
10	6.9	7.7	66.3	.0210	15.0	12.3	12.9	68.2	.0165	19.8	11.3	12.0	65.0	.0165	19.8
11	— 7.3	— 8.1	65.8	0.0204	15.6	—12.8	—13.5	62.5	0.0147	—21.9	—11.1	11.7	70.3	0.0181	—18.2
Means.			72.40	0.0249	—11.76			67.72	0.0171	—18.69			62.27	0.0149	—22.36

Date.	NOVEMBER, 1872.														
	13.					14.					15.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°
0^h	− 4.1	− 4.7	77.3	0.0279	− 9.4	+11.3	+10.9	92.0	0.0666	+ 9.4	+ 5.7	+ 5.0	81.8	0.0441	+ 0.4
1	3.7	3.9	92.9	.0338	5.3	11.3	11.0	94.0	.0681	9.9	5.8	5.1	81.9	.0444	0.5
2	3.8	4.1	89.2	.0323	6.2	10.8	10.3	89.7	.0636	9.9	5.5	4.9	84.3	.0450	0.8
3	− 4.1	4.2	96.4	.0345	4.9	10.9	10.5	91.9	.0654	8.9	5.8	5.1	82.7	.0469	1.7
4	+ 0.1	− 0.2	90.7	.0395	− 2.0	11.1	10.7	92.0	.0660	9.2	6.5	5.8	83.1	.0486	2.5
5	5.3	+ 4.9	90.0	.0497	+ 2.9	10.7	10.2	89.6	.0633	9.8	6.3	5.5	80.6	.0467	1.7
6	6.1	5.7	90.2	.0517	4.0	11.0	10.5	89.8	.0642	9.7	6.6	6.1	88.0	.0517	3.8
7	6.3	5.9	90.2	.0522	4.1	11.8	11.3	90.2	.0666	10.6	6.2	5.7	87.8	.0507	3.4
8	7.4	6.9	88.3	.0539	4.7	10.3	10.8	89.9	.0651	10.8	6.4	5.6	80.6	.0469	1.8
9	7.9	7.3	86.3	.0538	4.6	11.1	10.6	89.8	.0645	10.4	6.2	5.3	78.0	.0451	0.8
10	8.3	7.8	88.7	.0564	5.7	10.1	9.5	87.4	.0601	7.1	6.2	5.2	75.6	.0436	+ 0.2
11	8.8	8.3	88.9	.0578	5.8	10.1	9.5	87.4	.0601	7.1	6.2	5.0	70.8	.0408	− 1.3
Noon.	9.5	8.9	87.1	.0583	6.4	10.0	9.5	89.4	.0613	7.4	6.1	4.9	70.7	.0406	1.5
1^h	10.2	9.6	87.4	.0604	7.2	10.1	9.5	87.4	.0601	7.1	6.3	5.0	68.4	.0397	1.9
2	10.2	9.8	91.6	.0632	8.2	9.9	9.4	89.3	.0610	7.2	6.4	5.1	68.5	.0400	− 1.8
3	10.4	9.9	89.6	.0624	5.6	10.0	9.5	89.4	.0613	7.3	6.5	5.7	80.7	.0472	+ 1.9
4	11.0	10.5	89.8	.0642	6.1	9.6	9.0	87.1	.0586	6.5	6.7	5.7	76.1	.0449	0.8
5	10.9	10.6	94.0	.0668	9.5	8.9	8.2	84.5	.0551	+ 5.2	7.3	6.4	79.0	.0480	2.1
6	10.8	10.4	91.8	.0651	8.8	8.2	6.8	68.2	.0432	− 0.1	7.7	6.9	81.5	.0504	3.3
7	11.2	10.8	92.0	.0663	9.3	7.4	6.8	85.9	.0524	+ 4.0	7.9	7.2	84.0	.0524	4.1
8	11.1	10.7	92.0	.0660	9.2	7.8	7.2	86.2	.0535	4.5	8.9	8.9	80.1	.0522	4.0
9	11.3	10.9	92.0	.0666	9.4	7.4	6.8	85.9	.0524	4.0	9.4	8.5	80.3	.0537	4.7
10	11.6	11.1	90.1	.0660	6.2	6.4	5.8	85.4	.0497	2.9	9.6	8.7	80.5	.0543	4.9
11	+11.7	+11.2	90.1	0.0663	+ 6.2	+ 6.3	+ 5.7	85.3	0.0495	+ 2.8	+ 9.5	+ 8.6	80.4	0.0540	+ 4.8
Means.			89.44	0.0548	+ 4.01			87.82	0.0597	+ 7.15			79.39	0.0472	+ 1.74

Date.	NOVEMBER, 1872.														
	16.					17.					18.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°
0^h	+ 9.6	+ 8.8	82.8	0.0556	+ 5.4	− 1.3	− 1.8	83.2	0.0342	− 4.9	− 8.8	− 9.4	72.6	0.0209	−15.0
1	9.3	8.2	81.5	.0540	4.8	1.5	2.0	83.0	.0338	5.3	9.5	10.0	77.0	.0213	14.8
2	9.0	8.1	80.2	.0525	4.2	1.6	2.1	86.5	.0347	4.7	10.3	11.0	65.0	.0177	18.4
3	8.7	8.0	84.4	.0545	5.0	1.8	2.3	83.0	.0333	5.6	11.0	11.6	70.4	.0182	18.0
4	8.7	7.9	82.2	.0531	4.4	1.6	2.2	79.8	.0322	6.3	13.3	14.3	44.1	.0104	28.0
5	9.2	8.2	78.1	.0516	3.8	3.3	3.8	82.2	.0305	7.5	14.0	14.7	60.6	.0135	23.6
6	9.1	8.1	78.0	.0513	3.6	3.8	4.5	73.5	.0272	9.9	15.3	16.1	51.8	.0109	27.2
7	9.6	8.9	84.9	.0572	5.9	4.1	4.7	77.3	.0280	9.4	14.8	15.7	46.9	.0101	28.4
8	9.3	8.8	89.1	.0592	5.5	4.8	5.5	72.5	.0255	11.3	14.8	15.6	52.6	.0113	26.7
9	8.8	8.1	84.5	.0548	5.1	6.4	7.0	75.0	.0243	12.1	15.0	15.7	58.6	.0124	25.0
10	8.4	7.9	88.8	.0567	5.8	6.5	7.0	79.0	.0255	11.2	15.0	15.8	52.4	.0112	26.8
11	7.9	7.3	86.3	.0538	4.6	7.1	7.6	78.4	.0246	11.8	15.3	16.0	58.0	.0121	25.4
Noon.	7.6	7.1	88.4	.0514	5.0	7.3	7.9	74.1	.0230	12.9	15.5	16.3	51.4	.0107	27.5
1^h	4.4	4.1	92.2	.0487	+ 2.5	8.5	9.1	72.9	.0214	14.7	15.9	15.7	52.6	.0113	26.7
2	3.2	2.4	78.0	.0392	− 2.1	8.9	9.5	72.5	.0208	15.1	15.5	16.3	51.4	.0107	27.5
3	1.6	1.0	82.3	.0385	2.5	9.5	10.0	77.0	.0213	14.8	16.9	17.5	61.5	.0118	26.1
4	+ 0.4	+ 0.1	90.8	.0401	1.7	10.9	11.3	80.0	.0207	15.3	16.5	17.4	61.9	.0085	28.2
5	− 0.1	− 0.7	87.5	.0374	3.2	11.6	12.1	74.9	.0187	17.3	15.9	16.8	62.1	.0090	30.5
6	− 0.3	0.8	84.2	.0361	3.9	12.4	12.9	74.1	.0177	18.3	16.2	16.8	62.4	.0124	25.0
7	+ 0.3	0.2	84.6	.0372	3.3	12.6	13.2	67.8	.0162	20.2	16.5	17.1	61.9	.0121	25.5
8	+ 0.3	0.4	78.3	.0345	4.9	12.6	13.3	62.7	.0149	21.5	17.1	17.8	55.2	.0104	28.1
9	− 0.5	1.3	75.5	.0316	6.7	12.8	13.4	67.6	.0160	20.5	17.6	18.3	58.2	.0114	27.3
10	0.7	1.3	80.7	.0339	5.3	13.3	13.9	67.1	.0154	21.1	17.5	18.1	59.7	.0112	27.4
11	− 0.7	− 1.3	80.7	0.0339	− 5.3	−13.7	−14.4	61.2	0.0138	−23.1	−17.2	−17.8	61.2	0.0115	−26.4
Means.			83.50	0.0467	+ 1.11			75.22	0.0239	−13.12			58.77	0.0125	−25.15

NOVEMBER, 1872.

Date.	19.					20.					21.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	−17.3	−17.7	73.6	0.0139	−23.0	−13.3	−13.9	67.1	0.0154	−21.1	−14.0	−14.7	60.6	0.0135	−23.5
1	17.5	18.3	73.4	.0138	23.1	12.3	12.9	68.2	.0165	19.8	12.5	13.0	74.0	.0176	18.5
2	17.5	17.9	73.2	.0137	23.2	12.3	13.0	63.0	.0153	21.1	9.5	9.9	81.1	.0225	13.6
3	17.5	18.2	69.9	.0120	24.3	12.7	13.3	67.7	.0161	20.4	8.4	8.9	78.0	.0228	13.4
4	17.9	18.4	66.6	.0121	25.5	13.4	14.1	61.8	.0141	22.7	7.8	8.5	69.0	.0210	15.0
5	17.8	18.3	66.7	.0122	25.3	11.8	12.7	53.6	.0134	23.6	8.4	9.7	64.5	.0181	18.0
6	17.5	18.2	67.1	.0123	25.0	10.8	11.7	55.6	.0146	22.0	11.2	12.0	60.0	.0153	21.1
7	17.5	18.2	67.2	.0125	24.9	10.0	10.8	61.4	.0168	19.4	12.4	12.9	74.1	.0177	18.5
8	17.3	17.8	67.4	.0126	24.7	10.0	10.7	66.3	.0181	18.0	13.0	13.7	62.3	.0145	22.1
9	16.7	17.0	81.0	.0157	20.7	9.3	9.8	77.2	.0215	14.4	10.5	11.2	65.8	.0174	18.7
10	16.5	17.2	56.8	.0110	27.2	8.2	8.7	78.0	.0230	13.1	11.2	11.7	75.3	.0192	16.7
11	16.6	17.6	59.3	.0116	26.3	8.3	8.7	82.1	.0242	12.2	10.5	11.1	70.9	.0188	17.3
Noon.	16.5	17.1	61.9	.0121	25.5	7.0	7.6	74.4	.0234	12.8	10.0	10.6	71.4	.0193	16.6
1h	16.5	17.1	61.9	.0121	25.5	6.5	7.1	74.9	.0242	12.2	8.5	9.2	67.8	.0202	16.0
2	15.7	16.5	50.9	.0105	27.8	6.8	7.3	78.7	.0250	11.5	9.5	10.0	77.0	.0213	14.8
3	15.6	16.5	69.4	.0093	23.5	6.8	7.6	66.4	.0212	14.8	10.4	10.9	76.1	.0201	15.9
4	16.5	16.7	88.0	.0171	19.0	6.9	7.6	70.4	.0223	13.8	7.1	7.7	74.3	.0233	13.0
5	16.3	16.9	62.2	.0123	25.1	7.8	8.5	69.0	.0210	15.0	− 3.1	− 3.9	71.1	.0269	10.1
6	15.8	16.4	63.2	.0128	24.4	8.3	8.8	78.0	.0229	13.3	+ 0.8	± 0.0	75.8	.0341	5.1
7	15.5	16.2	57.6	.0119	25.6	6.9	7.5	74.5	.0236	12.7	2.3	+ 1.3	71.5	.0345	4.9
8	15.6	16.5	54.9	.0093	30.0	7.1	7.5	83.2	.0259	10.8	4.3	3.5	79.0	.0415	0.8
9	15.1	15.9	52.2	.0111	26.9	9.0	9.7	67.3	.0195	16.8	4.3	3.6	81.6	.0432	0.2
10	13.5	14.4	50.2	.0115	26.3	10.1	10.6	76.4	.0205	15.6	2.3	1.5	76.2	.0372	3.2
11	−13.5	−14.4	50.2	0.0115	−26.3	−12.8	−13.2	78.8	0.0184	−17.5	+ 1.3	+ 0.4	73.4	0.0338	− 5.3
Means.			64.78	0.0123	−24.13			70.58	0.0199	−16.44			72.53	0.0239	−13.43

NOVEMBER, 1872.

Date.	22.					23.					24.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	+ 1.3	+ 0.8	85.2	0.0392	− 2.1	+ 4.2	+ 3.4	78.9	0.0415	− 0.8	− 5.1	− 5.7	76.3	0.0263	−10.6
1	0.3	− 0.1	87.8	.0385	2.5	4.3	3.8	86.8	.0459	+ 1.3	4.3	5.0	80.2	.0273	9.8
2	0.5	± 0.0	84.7	.0376	3.1	4.1	3.3	78.8	.0413	− 1.0	5.2	5.8	76.2	.0261	10.7
3	0.8	+ 0.1	78.8	.0355	4.3	5.1	4.0	72.0	.0395	− 2.1	3.8	4.6	70.4	.0257	10.9
4	1.2	0.4	76.2	.0349	4.5	6.0	5.3	82.8	.0471	+ 2.0	4.0	4.8	70.2	.0254	11.2
5	1.2	0.3	73.3	.0336	5.4	3.2	2.7	86.2	.0433	± 0.0	4.0	4.8	70.2	.0254	11.2
6	1.4	0.9	85.3	.0394	2.0	1.6	0.9	79.6	.0372	− 3.3	4.9	5.7	68.6	.0241	12.4
7	1.9	1.2	79.6	.0374	3.2	0.8	0.0	75.8	.0341	5.1	4.7	5.5	69.0	.0244	12.1
8	2.1	1.2	74.2	.0355	4.2	0.3	+ 0.0	90.8	.0399	1.8	4.1	4.8	73.2	.0266	10.2
9	3.0	2.1	75.1	.0374	3.3	+ 0.3	− 0.6	72.3	.0319	6.6	4.8	5.6	68.8	.0242	12.2
10	2.8	2.3	86.1	.0424	− 0.5	− 0.5	1.3	75.5	.0316	6.7	5.0	5.7	72.3	.0252	11.5
11	3.4	2.9	86.4	.0439	+ 0.3	1.4	2.0	80.0	.0326	6.1	3.5	4.4	67.6	.0250	11.7
Noon.	3.2	2.6	83.5	.0419	− 0.7	1.6	2.1	83.0	.0337	5.4	4.3	4.9	77.1	.0276	9.6
1h	2.7	2.0	80.3	.0395	2.1	1.4	2.0	80.0	.0326	6.1	4.4	5.0	77.0	.0274	9.7
2	2.6	2.0	83.0	.0406	1.4	1.0	1.8	75.0	.0307	7.3	4.5	5.0	81.0	.0286	8.8
3	2.4	1.9	85.9	.0416	0.9	2.3	2.8	83.0	.0323	6.2	4.0	4.8	70.2	.0254	11.2
4	3.0	2.4	83.3	.0415	1.0	1.2	2.0	74.8	.0303	7.6	4.0	4.9	67.1	.0242	12.3
5	3.1	2.3	78.0	.0390	2.2	2.8	3.4	78.6	.0301	7.7	5.0	5.7	72.3	.0252	11.5
6	3.0	2.3	80.6	.0402	1.8	3.0	3.7	74.3	.0283	8.9	4.4	5.2	69.6	.0248	11.7
7	3.1	2.4	80.7	.0404	1.7	3.0	3.8	72.2	.0270	10.0	5.1	6.1	61.9	.0212	15.0
8	4.2	3.5	81.6	.0430	0.3	3.1	3.7	78.3	.0296	8.2	5.0	6.0	62.0	.0213	14.8
9	4.0	3.3	81.4	.0425	− 0.5	4.2	4.7	81.3	.0291	8.5	4.9	5.9	62.1	.0215	14.6
10	4.7	4.0	81.8	.0441	+ 0.4	4.5	5.3	69.4	.0247	11.9	5.4	6.5	61.8	.0211	14.9
11	+ 4.5	+ 3.6	76.5	0.0408	− 1.4	− 4.5	− 5.3	69.4	0.0247	−11.9	− 5.4	− 6.4	61.6	0.0207	−15.4
Means.			81.22	0.0396	− 2.02			78.28	0.0341	− 5.41			70.28	0.0248	−11.83

Date.	DECEMBER, 1872.														
	7.					8.					9.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	—10.3	—10.9	71.1	0.0190	—17.0	+ 7.3	+ 6.5	81.2	0.0493	+ 2.8	— 0.7	— 1.0	90.0	0.0380	— 2.8
1	11.5	12.5	48.5	.0124	24.8	6.3	5.6	83.0	.0481	2.3	1.1	1.6	83.4	.0346	4.8
2	12.6	13.5	52.9	.0124	24.9	7.1	6.2	78.8	.0474	2.9	2.2	2.7	83.0	.0325	6.0
3	14.0	14.8	54.4	.0122	25.3	6.8	6.0	80.8	.0479	2.2	3.0	3.7	74.3	.0284	8.8
4	13.7	14.6	49.8	.0113	26.6	9.0	8.4	86.8	.0569	5.8	3.6	4.2	77.8	.0287	8.7
5	13.5	14.2	62.6	.0140	22.8	8.7	8.0	84.4	.0545	5.0	4.5	4.9	85.0	.0299	7.9
6	12.4	13.1	62.9	.0152	21.2	8.7	8.0	84.4	.0545	5.0	5.5	6.1	75.9	.0257	11.0
7	12.5	13.0	74.0	.0176	18.5	8.3	7.7	86.5	.0549	5.1	5.8	6.2	84.0	.0278	9.3
8	11.6	12.5	54.0	.0136	23.3	8.4	7.6	81.9	.0523	4.1	6.8	7.3	78.7	.0251	11.5
9	10.8	11.6	60.4	.0158	20.5	8.7	8.0	84.4	.0545	5.0	7.4	7.9	78.1	.0242	12.1
10	9.4	9.9	77.1	.0214	14.6	6.8	6.0	80.8	.0479	2.2	7.4	7.9	78.1	.0242	12.1
11	9.6	10.2	71.8	.0199	16.0	5.9	5.3	85.2	.0485	2.4	8.5	9.0	78.0	.0226	13.5
Noon.	10.5	11.0	76.0	.0200	16.0	7.1	6.4	83.5	.0503	3.2	8.9	9.8	59.4	.0169	19.3
1h	10.3	10.9	71.1	.0190	17.0	7.3	6.5	81.2	.0493	2.8	9.4	10.0	72.0	.0202	15.8
2	9.4	10.0	72.0	.0202	15.8	6.3	5.6	83.0	.0481	2.3	10.8	11.2	80.0	.0208	15.2
3	9.3	9.8	77.2	.0215	14.4	6.8	6.2	85.6	.0508	3.3	10.0	10.7	66.3	.0181	18.0
4	8.5	9.5	56.0	.0163	20.1	6.1	5.3	80.5	.0462	1.4	10.7	11.5	60.5	.0159	20.3
5	7.5	8.4	61.6	.0188	17.2	6.3	5.6	83.0	.0481	2.3	10.5	11.5	51.0	.0136	23.1
6	— 6.4	— 7.2	66.8	.0218	14.3	6.1	5.5	85.3	.0490	2.6	11.2	11.8	70.2	.0179	18.3
7	+ 3.3	+ 2.4	75.4	.0381	— 2.9	6.3	5.7	85.4	.0495	2.8	11.5	12.4	54.2	.0137	23.1
8	5.4	4.8	84.8	.0472	+ 1.9	6.0	5.5	87.7	.0501	+ 3.2	12.1	12.8	63.4	.0155	20.9
9	6.1	5.4	82.8	.0476	2.1	1.7	+ 1.1	82.4	.0387	— 2.4	12.5	13.1	67.9	.0163	20.1
10	3.8	3.2	83.9	.0433	0.1	0.5	± 0.0	84.7	.0376	3.1	12.0	12.7	63.6	.0156	20.7
11	+ 6.7	+ 5.9	80.8	0.0477	+ 2.1	+ 0.3	— 0.3	81.4	0.0359	— 4.1	—11.1	—11.8	65.2	0.0167	—19.6
Means.			64.51	0.0228	—15.29			86.36	0.0488	+ 2.46			72.50	0.0226	—14.29

Date.	DECEMBER, 1872.														
	10.					11.					12.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	—11.5	—12.0	75.0	0.0188	—17.2	—14.1	—14.7	65.6	0.0146	—22.1	—11.5	—12.2	64.6	0.0162	—20.0
1	11.3	11.9	70.1	.0178	18.4	14.0	14.7	60.6	.0135	23.5	12.9	13.4	73.6	.0171	19.1
2	11.5	11.9	80.0	.0200	16.1	13.7	14.3	66.4	.0150	21.7	12.6	13.2	67.8	.0162	20.2
3	12.0	12.5	74.5	.0182	17.7	13.5	14.2	61.6	.0140	22.8	12.6	13.2	67.8	.0162	20.2
4	13.6	14.1	72.9	.0164	20.0	13.2	13.8	67.2	.0155	21.0	12.8	13.6	56.8	.0134	23.5
5	13.7	14.6	49.8	.0113	26.6	12.5	13.0	74.0	.0176	18.5	11.8	12.6	58.8	.0146	22.0
6	13.5	14.2	61.6	.0140	22.8	12.2	12.8	68.4	.0166	19.6	12.4	13.1	62.9	.0152	21.3
7	14.8	15.5	59.0	.0126	24.6	12.5	13.2	62.8	.0150	21.4	13.0	13.8	56.4	.0132	23.8
8	14.0	14.8	54.4	.0122	25.3	10.9	11.4	75.6	.0195	16.4	13.5	14.0	73.0	.0165	19.8
9	13.5	14.2	61.6	.0140	22.8	10.5	10.9	80.1	.0212	14.9	13.3	13.8	73.2	.0167	19.5
10	11.8	12.5	64.0	.0158	20.5	10.5	11.2	65.8	.0174	18.7	12.8	13.3	73.7	.0172	19.0
11	11.4	12.1	64.8	.0163	19.9	11.8	12.6	58.8	.0146	22.0	12.6	13.1	73.9	.0175	18.7
Noon.	11.7	12.3	69.4	.0172	19.0	9.5	10.3	62.4	.0176	18.7	13.2	13.8	67.2	.0155	21.0
1h	12.3	12.9	68.2	.0165	19.7	9.5	10.2	66.8	.0187	17.3	13.3	14.0	62.0	.0142	22.5
2	12.0	12.8	58.4	.0143	22.3	11.5	12.0	75.0	.0188	17.2	13.9	14.7	54.6	.0123	25.2
3	12.5	13.0	74.0	.0176	18.5	11.2	11.8	70.2	.0179	18.3	14.5	15.0	59.4	.0128	24.8
4	14.4	15.2	53.6	.0118	25.9	11.8	12.5	64.0	.0158	20.4	15.2	15.8	64.2	.0134	23.5
5	14.4	15.0	65.0	.0143	22.4	12.0	12.7	63.6	.0156	20.8	14.9	15.6	58.8	.0125	24.8
6	15.2	15.8	64.2	.0134	23.5	12.5	13.3	57.4	.0137	23.0	14.9	15.7	52.6	.0113	26.6
7	16.1	16.7	62.6	.0125	24.8	13.0	13.5	73.5	.0170	19.2	15.3	15.9	64.1	.0133	23.7
8	16.1	16.7	62.6	.0125	24.8	12.5	13.5	46.0	.0112	26.7	15.5	16.2	57.6	.0119	25.7
9	15.6	16.4	51.2	.0106	27.6	11.1	11.7	70.3	.0181	18.2	15.6	16.3	57.4	.0118	25.9
10	15.1	15.8	58.4	.0123	25.1	10.2	10.7	76.3	.0204	15.7	15.5	16.3	51.4	.0107	27.4
11	—15.0	—15.7	58.6	0.0124	—25.0	—11.2	—11.7	75.3	0.0192	—16.7	—15.8	—16.5	57.0	0.0116	—26.2
Means.			63.91	0.0147	—22.10			66.99	0.0166	—19.8			62.87	0.0142	—22.68

Date.	DECEMBER, 1872.														
	13.					14.					15.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°
0h	−16.0	−16.8	50.4	0.0102	−28.2	−18.5	−19.2	51.4	0.0091	−30.4	−10.7	−11.4	65.6	0.0172	−19.0
1	16.3	16.8	69.2	.0136	23.4	17.6	18.3	54.1	.0099	28.9	10.3	11.0	66.0	.0177	18.4
2	16.5	17.1	61.9	.0121	25.5	17.0	17.7	55.3	.0105	28.0	10.4	11.8	33.6	.0087	30.8
3	16.5	17.0	69.0	.0134	23.6	16.7	17.5	49.0	.0096	29.3	10.8	11.3	75.7	.0196	16.3
4	16 5	17.0	69.0	.0134	23.6	16.5	17.1	61.9	.0121	25.5	11.6	12.2	69.6	.0173	18.8
5	17.5	18.2	54.4	.0100	28.7	15.5	16.2	57.6	.0119	25.7	11.4	12.1	64.8	.0164	19.9
6	17.0	17.7	55.3	.0105	28.0	15.0	15.6	64.4	.0137	23.1	11.3	11.8	75.2	.0190	16.8
7	16.8	17.6	48.8	.0095	29.5	14.7	15.5	53.5	.0115	26.3	10.3	10.9	71.1	.0190	17.0
8	16.8	17.6	48.8	.0095	29.5	14.4	15.0	65.0	.0143	22.4	8.6	9.3	67.7	.0201	16.2
9	16.5	17.0	69.0	.0134	23.6	14.3	14.8	72.2	.0157	20.7	9.0	9.6	72.4	.0207	15.2
10	17.6	18.4	46.8	.0087	30.9	14.3	14.8	72.2	.0157	20.7	9.3	9.8	77.2	.0215	14.4
11	18.7	19.7	30.9	.0053	37.6	13.9	14.7	54.4	.0122	25.3	9.0	9.7	67.3	.0195	16.8
Noon.	18.6	19.4	44.2	.0078	32.6	13.6	14.4	55.2	.0126	24.7	8.9	9.6	67.4	.0196	16.7
1h	18.6	19.5	37.5	.0066	34.7	13.8	14.6	51.8	.0124	25.0	9.0	9.8	63.2	.0181	17.9
2	18.7	19.5	44.0	.0077	32.8	13.8	14.7	49.6	.0112	26.7	10.0	10.8	61.4	.0168	19.4
3	19.0	19.6	57.2	.0098	29.1	14.4	15.0	65.0	.0143	22.4	10.6	11.0	80.0	.0211	15.0
4	19.3	19.9	56.3	.0095	29.4	14.5	15.0	72.0	.0155	20.9	11.0	11.7	65.3	.0168	19.5
5	18.8	19.5	50.5	.0088	30.9	13.9	14.5	6[illegible].0	.0148	21.9	11.0	11.8	60.2	.0155	20.8
6	19.5	20.2	48.6	.0082	31.1	12.6	13.2	67.8	.0162	20.2	10.7	11.5	60.5	.0159	20.4
7	19.7	20.3	55.4	.0092	30.1	12.0	12.7	63.6	.0156	20.7	10.5	11.1	70.9	.0188	17.3
8	19.7	20.5	41.5	.0068	31.3	11.5	12.1	69.8	.0175	18.7	9.5	10.2	66.8	.0187	17.3
9	19.4	20.0	56.0	.0095	29.5	11.0	11.7	65.3	.0168	19.5	9.4	9.9	77.1	.0214	14.6
10	19.3	19.8	63.6	.0107	27.5	11.0	11.7	65.3	.0168	19.5	8.4	9.1	67.9	.0203	15.9
11	−19.0	−19.6	57.2	0.0098	−29.1	−10.8	−11.6	60.4	0.0158	−20.5	− 8.6	− 9.4	63.6	0.0186	−17.3
Means.			53.56	0.0098	−29.30			60.64	0.0136	−23.62			67.10	0.0183	−17.99

Date.	DECEMBER, 1872.														
	16.					17.					18.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°
0h	− 8.4	− 8.9	78.0	0.0228	−13.4	−10.1	−10.6	76.4	0.0205	−15.6	− 7.5	− 8.0	78.0	0.0240	−12.2
1	7.7	8.5	65.0	.0200	16.2	9.6	10.0	81.0	.0224	13.7	7.4	7.8	82.9	.0254	11.2
2	7.7	8.6	61.4	.0186	17.5	9.8	10.5	66.5	.0184	17.7	6.5	7.1	74.9	.0242	12.2
3	7.0	7.6	74.4	.0234	12.8	9.9	10.6	66.4	.0182	17.7	5.3	5.8	80.2	.0263	9.8
4	6.7	7.3	74.7	.0239	12.4	9.4	9.8	81.2	.0226	13.5	4.9	5.6	72.4	.0253	11.4
5	6.9	7.7	66.3	.0210	15.0	8.6	9.4	63.6	.0186	17.3	4.8	5.2	84.8	.0294	8.2
6	8.2	8.8	73.2	.0217	14.3	9.9	10.6	66.4	.0182	17.7	3.7	4.3	77.7	.0286	8.9
7	8.2	8.8	73.2	.0217	14.3	10.7	11.3	70.7	.0186	17.6	3.9	4.6	73.4	.0270	10.0
8	8.2	8.7	78.0	.0230	13.0	11.4	11.9	75.1	.0189	17.0	1.9	2.6	75.4	.0303	7.6
9	9.0	9.8	63.2	.0181	17.9	10.0	10.6	71.4	.0193	16.6	2.0	2.8	72.4	.0288	8.7
10	10.0	10.6	71.4	.0193	16.6	9.5	9.9	81.1	.0225	13.6	3.2	3.8	78.2	.0294	8.3
11	10.0	10.5	76.5	.0206	15.5	10.3	10.8	76.2	.0202	15.9	3.1	3.7	78.3	.0296	8.2
Noon.	10.3	10.8	76.2	.0202	15.9	11.3	11.8	75.2	.0190	16.8	2.6	3.2	78.8	.0304	7.5
1h	10.8	11.6	60.4	.0158	20.5	9.6	10.1	76.9	.0212	14.9	2.7	3.6	68.4	.0262	10.6
2	10.6	11.2	70.8	.0187	17.4	8.7	9.2	77.8	.0223	13.7	3.6	4.2	77.8	.0287	8.7
3	10.6	11.1	75.9	.0199	16.1	8.6	9.1	77.9	.0225	13.6	3.8	4.4	77.6	.0284	9.0
4	9.9	10.5	71.5	.0195	16.5	8.5	9.4	60.2	.0174	18.7	4.8	5.4	76.6	.0268	10.2
5	10.0	10.6	71.4	.0193	16.6	7.7	8.5	65.0	.0199	16.2	6.5	7.2	70.8	.0229	13.3
6	9.8	10.5	66.5	.0184	17.7	7.5	8.6	71.6	.0222	14.0	6.6	7.3	70.7	.0228	13.4
7	9.7	10.4	66.6	.0185	17.6	7.2	7.7	78.3	.0245	11.9	6.8	7.5	70.5	.0225	13.7
8	9.7	10.5	62.0	.0173	19.0	7.0	7.7	70.3	.0222	13.9	7.1	7.7	74.3	.0233	13.0
9	9.6	10.0	81.0	.0224	13.7	7.4	8.1	69.8	.0216	14.5	8.1	8.7	73.3	.0218	14.2
10	10.1	10.7	71.3	.0192	16.8	8.3	8.9	73.1	.0216	14.5	8.5	9.3	63.7	.0187	17.2
11	− 9.9	−10.6	66.4	0.0182	−17.9	− 7.7	− 8.4	69.2	0.0211	−14.9	− 8.8	− 9.5	67.5	0.0198	−16.6
Means.			70.64	0.0201	−16.03			72.55	0.0206	−15.48			74.94	0.0259	−11.00

Date.	DECEMBER, 1872.														
	19.					20.					21.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°
0^h	— 8.5	— 9.4	60.2	0.0174	—18.7	— 3.7	— 4.4	73.6	0.0273	— 9.8	— 6.4	— 7.2	66.8	0.0218	—14.3
1	9.3	9.8	77.2	.0215	14.4	3.6	4.4	70.6	.0260	10.7	7.4	7.9	78.1	.0241	12.1
2	7.6	8.2	73.8	.0225	13.6	3.8	4.7	67.3	.0245	12.1	7.3	8.0	70.0	.0217	14.4
3	6.6	7.2	74.8	.0240	12.3	4.0	4.6	77.4	.0281	9.2	7.5	8.2	69.6	.0214	14.6
4	7.8	8.4	73.6	.0222	13.8	4.4	4.8	85.1	.0300	7.8	8.3	8.8	78.0	.0229	13.3
5	7.0	7.6	74.4	.0234	12.8	4.0	4.7	73.3	.0268	10.1	8.4	9.0	73.0	.0215	14.6
6	6.3	6.8	79.2	.0258	10.8	4.4	4.8	85.1	.0300	7.8	7.7	8.6	61.4	.0186	17.5
7	6.4	6.8	83.6	.0269	9.9	3.5	4.0	82.0	.0302	7.7	7.5	8.1	73.9	.0227	13.5
8	7.3	7.8	78.2	.0243	12.0	3.5	4.0	82.0	.0302	7.7	7.6	8.3	69.4	.0213	14.7
9	7.6	8.5	61.5	.0187	17.4	3.6	4.3	73.7	.0275	9.8	7.3	7.8	78.2	.0243	12.0
10	7.7	8.6	61.4	.0180	17.5	4.0	4.7	73.3	.0268	10.1	7.3	7.8	78.2	.0243	12.0
11	7.4	7.8	82.9	.0254	11.2	3.8	4.6	70.4	.0257	10.9	6.4	6.9	79.1	.0257	11.0
Noon.	5.4	5.8	84.3	.0284	8.8	4.5	4.9	85.0	.0299	7.9	6.6	7.3	70.7	.0228	13.4
1^h	4.6	5.0	84.9	.0297	8.0	4.7	5.5	69.0	.0244	12.1	6.8	7.6	66.4	.0212	14.8
2	4.8	5.6	68.8	.0242	12.2	4.8	5.6	68.8	.0242	12.2	5.4	6.0	76.0	.0258	10.9
3	4.6	5.0	84.9	.0297	8.0	5.3	5.8	80.2	.0273	9.8	2.9	3.7	71.3	.0272	9.9
4	4.3	4.7	85.2	.0302	7.7	5.5	6.2	71.8	.0244	12.1	2.5	3.4	68.6	.0265	10.3
5	4.3	4.9	77.1	.0276	9.6	5.6	6.4	67.6	.0230	13.2	3.5	4.2	73.8	.0276	9.5
6	3.9	4.5	77.5	.0283	9.1	6.5	7.4	64.6	.0218	14.3	5.4	6.1	71.9	.0246	12.0
7	4.5	5.2	72.8	.0259	10.8	7.1	7.7	74.3	.0233	13.0	5.5	6.3	67.7	.0232	13.1
8	4.3	4.9	77.1	.0276	9.6	7.4	8.0	74.0	.0228	13.4	6.5	7.2	70.8	.0229	13.3
9	4.7	5.5	69.0	.0244	12.1	7.1	7.7	74.3	.0233	13.0	5.1	5.7	76.3	.0263	10.6
10	4.3	4.8	81.2	.0289	8.6	7.3	7.8	78.2	.0243	12.0	4.4	5.0	77.0	.0274	9.8
11	— 3.6	— 4.2	78.8	0.0287	— 8.7	— 6.9	— 7.5	74.5	0.0236	—12.7	— 4.1	— 4.7	73.3	0.0268	—10.1
Means.			71.77	0.0247	—11.57			74.84	0.0261	—10.81			72.48	0.0239	—12.57

Date.	DECEMBER, 1872.														
	22.					23.					24.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°
0^h	— 1.3	— 1.8	83.2	0.0342	— 5.0	+ 2.3	+ 1.4	74.4	0.0359	— 4.0	+ 8.2	+ 7.4	81.8	0.0517	+ 3.8
1	± 0.0	— 0.7	78.2	.0340	5.4	2.1	1.2	74.2	.0355	4.2	8.3	7.5	81.9	.0520	4.0
2	+ 1.3	+ 0.5	76.3	.0351	4.4	1.3	0.7	82.2	.0378	2.9	9.2	8.0	73.7	.0487	2.5
3	1.5	0.7	76.5	.0356	4.1	2.8	1.9	74.9	.0370	3.6	8.2	7.3	79.6	.0504	3.2
4	6.2	5.1	73.3	.0422	— 0.5	1.5	0.8	79.5	.0369	3.4	12.4	11.4	80.5	.0612	7.5
5	5.3	4.6	82.3	.0456	+ 1.1	1.3	0.5	76.3	.0351	4.4	5.8	5.0	80.2	.0454	+ 1.0
6	5.1	4.2	77.0	.0423	— 0.6	1.3	0.4	73.3	.0338	5.3	5.3	4.4	77.2	.0428	— 0.3
7	5.0	4.1	76.9	.0421	0.7	1.7	0.9	76.7	.0360	3.9	4.4	3.0	52.4	.0203	15.7
8	5.2	4.3	77.1	.0426	— 0.5	1.8	0.9	73.9	.0349	4.6	4.3	3.5	79.0	.0417	0.7
9	5.8	5.0	80.2	.0454	+ 1.0	2.2	1.2	71.4	.0343	5.0	5.1	4.1	74.5	.0409	1.3
10	6.2	5.1	73.3	.0422	— 0.5	1.7	1.0	79.6	.0374	3.2	4.3	3.6	81.6	.0432	0.2
11	6.2	5.1	73.3	.0422	— 0.5	2.2	1.1	65.8	.0285	— 8.9	3.3	2.2	63.8	.0265	10.5
Noon.	6.7	5.9	80.8	.0477	+ 2.1	5.6	5.0	84.9	.0477	+ 2.1	3.7	2.9	78.5	.0404	1.5
1^h	5.4	4.8	84.8	.0472	+ 1.9	5.2	4.2	74.6	.0411	— 1.1	0.7	+ 0.2	84.9	.0380	2.9
2	5.3	4.1	69.6	.0385	— 2.6	6.1	6.0	96.1	.0316	— 6.7	0.4	— 0.6	69.4	.0306	7.5
3	4.3	3.6	81.6	.0432	0.2	12.1	10.8	74.4	.0558	+ 5.6	0.3	— 0.6	72.3	.0319	6.6
4	4.5	4.2	89.2	.0321	6.3	10.5	9.5	79.0	.0554	5.4	0.7	+ 0.1	81.7	.0366	3.6
5	2.6	1.9	80.2	.0393	2.2	9.3	8.5	82.7	.9548	5.1	1.7	0.6	67.8	.0320	6.8
6	1.7	1.0	79.6	.0374	3.2	7.5	6.6	79.1	.0486	2.3	1.4	0.6	76.4	.0353	4.2
7	2.1	1.2	74.2	.0355	4.2	7.6	6.8	81.4	.0501	3.1	1.2	0.4	76.2	.0349	4.5
8	3.5	2.9	83.7	.0427	0.3	7.3	6.5	81.2	.0493	2.8	0.7	0.2	84.9	.0380	2.6
9	3.7	3.0	81.1	.0418	0.8	6.9	6.2	83.4	.0497	3.0	1.3	0.6	79.3	.0365	3.7
10	3.9	3.1	78.7	.0408	1.3	7.5	6.8	83.7	.0513	3.7	2.3	1.6	79.9	.0386	2.5
11	+ 3.2	+ 2.5	80.8	0.0407	— 1.6	+ 7.1	+ 6.3	81.0	0.0488	+ 2.5	+ 4.3	+ 3.7	83.6	0.0422	— 0.6
Means.			78.83	0.0404	— 1.62			78.48	0.0419	— 1.07			76.71	0.0399	— 2.24

DECEMBER, 1872.

Date.	25.					26.					27.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0^h	+14.8	+14.0	85.4	0.0726	+11.3	− 1.7	− 2.3	79.7	0.0321	− 6.5	+ 1.8	+ 0.7	67.9	0.0322	− 6.6
1	15.2	13.8	74.9	.0649	8.9	2.5	3.1	78.9	.0306	7.4	2.6	1.5	69.0	.0338	5.5
2	15.4	14.0	75.1	.0656	9.0	7.5	8.2	69.6	.0214	14.6	4.3	2.9	54.1	.0217	14.5
3	15.3	13.9	75.0	.0653	8.9	7.9	8.5	73.5	.0221	13.9	4.3	3.4	76.3	.0404	1.7
4	11.8	10.8	80.0	.0592	6.7	8.4	9.1	67.9	.0203	15.9	3.6	2.3	64.8	.0332	5.9
5	9.2	8.0	73.7	.0487	2.5	9.5	10.0	77.0	.0213	14.8	+ 2.3	+ 1.2	68.7	.0332	5.8
6	13.8	12.8	81.3	.0660	9.2	9.5	10.3	62.4	.0176	18.6	− 1.4	− 1.9	86.7	.0351	4.5
7	11.0	9.9	77.4	.0555	5.4	9.5	10.3	62.4	.0176	18.6	6.5	7.3	66.7	.0217	14.4
8	9.1	8.0	75.8	.0499	+ 3.0	10.3	10.9	71.1	.0190	17.0	9.3	9.7	81.3	.0228	13.4
9	5.4	4.4	74.8	.0416	− 0.8	7.7	8.6	61.4	.0186	17.5	8.6	9.6	55.8	.0161	20.2
10	5.4	4.9	87.5	.0487	+ 2.5	7.8	8.7	61.3	.0184	17.7	9.7	10.2	76.8	.0210	15.0
11	+ 3.2	+ 2.3	75.3	.0379	− 3.0	6.7	7.7	59.6	.0188	17.3	10.3	11.4	47.8	.0125	24.6
Noon.	− 0.7	− 1.5	74.3	.0313	7.0	6.3	7.1	66.9	.0220	14.2	10.2	11.4	43.8	.0113	26.3
1^h	+ 1.2	+ 0.3	73.2	.0336	5.4	6.9	7.8	62.4	.0197	16.3	9.3	9.8	77.2	.0215	14.4
2	0.3	− 0.5	75.8	.0332	5.9	7.4	8.1	69.8	.0216	14.5	9.9	10.9	52.6	.0145	22.0
3	0.3	− 0.4	78.3	.0345	4.9	7.4	8.1	69.8	.0216	14.5	10.7	11.5	60.5	.0159	20.4
4	1.9	+ 1.0	74.0	.0351	4.5	6.3	7.1	66.9	.0220	14.2	11.0	11.7	65.3	.0168	19.5
5	+ 2.1	+ 1.1	71.3	.0341	5.1	5.3	6.5	51.0	.0183	18.0	10.1	10.9	61.2	.0167	19.5
6	− 0.3	− 1.3	68.7	.0293	8.4	2.7	3.7	65.3	.0249	11.6	8.1	8.8	68.4	.0206	15.4
7	0.5	1.5	68.5	.0289	8.7	2.9	3.9	65.1	.0246	11.9	8.8	9.5	67.5	.0198	16.6
8	1.3	2.1	74.6	.0301	7.8	1.5	2.6	63.4	.0257	11.0	9.5	10.5	53.5	.0149	21.6
9	2.6	3.5	68.5	.0264	10.5	0.5	1.6	64.8	.0275	9.7	9.4	10.3	58.4	.0164	20.0
10	3.6	4.5	67.5	.0249	11.9	0.8	1.7	71.3	.0298	8.1	9.1	9.7	72.3	.0205	15.4
11	− 4.5	− 5.5	62.5	0.0221	−14.2	− 0.5	− 1.6	61.8	0.0275	− 9.7	− 9.9	−10.5	71.5	0.0195	−16.5
Means.			74.73	0.0433	− 1.28			66.64	0.0226	−13.90			65.34	0.0222	−14.97

DECEMBER, 1872.

Date.	28.					29.					30.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0^h	−11.5	−12.2	64.6	0.0162	−20.0	−14.8	−15.5	59.0	0.0126	−24.8	−20.8	−21.5	46.0	0.0072	−34.0
1	11.6	12.4	59.2	.0148	21.7	15.5	16.2	57.6	.0119	25.7	20.0	20.9	33.3	.0053	37.1
2	12.0	12.7	63.6	.0156	20.8	16.4	17.0	62.0	.0122	25.3	20.3	20.9	54.2	.0086	31.1
3	12.3	12.8	74.2	.0178	18.1	17.2	17.7	67.6	.0127	24.6	20.8	21.5	46.0	.0072	34.0
4	11.8	12.6	58.8	.0146	22.0	17.4	17.8	73.4	.0138	23.1	21.3	21.7	68.3	.0104	28.2
5	11.4	11.9	75.1	.0189	17.0	17.7	18.5	46.5	.0086	31.1	21.2	21.8	52.4	.0080	32.3
6	11.4	11.9	75.1	.0189	17.0	17.4	17.9	67.2	.0126	24.8	21.3	21.8	60.4	.0091	29.9
7	10.8	11.6	60.4	.0158	20.5	18.2	18.7	66.3	.0118	26.0	21.3	21.8	60.4	.0091	29.9
8	11.2	11.8	70.2	.0179	18.3	19.5	19.9	71.1	.0118	25.7	21.3	21.8	60.4	.0091	29.9
9	10.8	11.4	70.6	.0184	17.7	19.2	19.8	56.6	.0096	29.3	22.3	22.8	58.4	.0082	31.6
10	9.0	9.6	72.4	.0207	15.2	19.5	20.2	48.6	.0082	31.0	22.5	23.0	58.0	.0082	31.7
11	8.6	9.2	72.8	.0212	14.8	19.8	20.7	33.9	.0055	36.8	22.8	23.5	39.5	.0057	37.0
Noon.	9.5	11.2	65.8	.0174	18.7	20.1	21.0	33.0	.0053	37.3	22.8	23.5	39.5	.0057	37.0
1^h	10.2	10.8	71.2	.0191	16.9	20.8	21.5	46.0	.0072	34.0	23.5	23.7	82.3	.0110	27.0
2	11.3	11.7	80.0	.0202	15.7	20.8	21.4	53.2	.0084	31.9	23.6	24.1	55.8	.0074	33.1
3	11.0	11.6	70.4	.0182	18.0	20.7	21.4	46.2	.0073	33.8	23.9	24.6	36.8	.0049	38.6
4	11.5	12.2	64.6	.0162	20.0	21.5	22.1	51.8	.0078	32.7	24.5	25.2	35.0	.0044	39.4
5	10.5	11.2	65.8	.0174	18.7	20.5	21.2	46.6	.0074	33.4	24.2	24.7	54.6	.0070	34.0
6	11.5	12.3	59.4	.0150	21.6	20.5	21.2	46.6	.0074	33.4	24.1	24.7	45.6	.0059	36.3
7	12.3	12.9	68.2	.0165	19.8	20.6	21.3	46.4	.0073	33.6	24.6	25.3	34.5	.0044	39.6
8	12.6	13.3	62.7	.0149	21.6	20.7	21.5	38.5	.0060	36.1	25.1	25.7	42.9	.0052	37.7
9	12.9	13.4	73.6	.0171	19.1	20.7	21.4	46.2	.0073	33.8	25.2	25.8	42.6	.0051	37.8
10	14.0	14.5	72.5	.0160	20.4	21.8	22.5	43.0	.0063	35.6	24.9	25.6	33.0	.0042	40.2
11	−13.3	−13.9	67.1	0.0153	−21.2	−21.5	−22.2	44.2	0.0066	−35.0	−26.8	−27.4	37.4	0.0041	−40.4
Means.			68.26	0.0173	−18.95			52.15	0.0089	−30.78			44.85	0.0069	−34.49

Date.	DECEMBER, 1872.					JANUARY, 1873.									
	31.					1.					2.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	—26.7	—27.3	37.8	0.0042	—40.3	—29.3	—29.8	38.8	0.0038	—41.1	—29.7	—30.2	37.2	0.0035	—41.8
1	28.1	28.6	43.6	.0045	39.4	28.0	28.6	32.0	.0033	42.3	29.7	30.3	22.8	.0022	45.0
2	27.9	28.5	32.5	.0034	42.2	27.4	27.8	56.4	.0061	35.9	30.2	30.7	35.2	.0033	42.5
3	28.2	28.8	31.0	.0032	42.6	28.0	28.6	32.0	.0033	42.3	30.1	30.7	21.2	.0020	45.6
4	28.7	29.2	41.2	.0041	40.4	28.0	28.5	44.0	.0046	39.3	30.6	31.3	32.7	.0029	43.3
5	28.5	29.1	29.4	.0030	43.2	28.3	28.8	42.8	.0044	39.6	30.7	31.5	32.7	.0029	43.3
6	27.7	28.3	33.5	.0035	41.9	27.5	28.1	34.5	.0036	41.6	31.3	31.7	44.2	.0039	41.0
7	28.6	29.2	28.8	.0029	43.3	27.2	27.7	46.9	.0051	38.2	30.4	30.9	34.4	.0032	42.7
8	28.9	29.5	27.0	.0028	43.8	27.5	27.9	56.2	.0060	36.0	30.4	30.7	61.6	.0055	37.1
9	29.5	29.9	50.3	.0048	38.5	27.5	28.0	46.0	.0048	38.6	31.5	31.9	43.4	.0037	41.2
10	29.3	29.7	50.9	.0050	38.3	27.1	27.6	47.2	.0051	38.1	31.1	31.5	45.0	.0040	40.8
11	28.4	29.1	17.5	.0018	46.1	26.7	27.3	37.8	.0042	40.3	31.6	32.1	29.5	.0026	44.3
Noon.	26.5	27.2	27.0	.0030	43.1	25.5	26.0	52.0	.0061	35.8	31.3	31.8	30.8	.0027	43.8
1h	26.5	27.2	27.0	.0030	43.1	25.6	26.2	41.4	.0048	38.5	31.7	32.2	29.0	.0025	44.5
2	26.4	26.8	58.4	.0067	34.7	27.3	27.7	56.6	.0062	35.8	32.3	32.9	27.5	.0023	44.9
3	26.8	27.3	48.1	.0053	37.6	26.5	27.2	27.0	.0030	43.1	32.3	32.8	26.0	.0022	45.3
4	27.0	27.6	36.6	.0040	40.7	28.0	28.6	32.0	.0033	42.3	32.3	32.9	29.6	.0026	44.2
5	27.7	28.5	34.1	.0036	41.6	28.4	29.0	30.0	.0030	43.0	32.4	33.1	29.6	.0026	44.2
6	28.1	28.7	31.5	.0033	42.5	29.3	29.8	38.8	.0038	41.1	32.5	33.1	29.6	.0026	44.2
7	27.5	28.2	22.0	.0024	44.5	28.5	29.1	29.4	.0030	43.2	31.9	32.5	29.6	.0026	44.2
8	27.8	28.5	20.5	.0023	45.1	28.4	29.1	17.5	.0018	46.1	32.1	32.7	29.6	.0026	44.2
9	27.5	28.2	22.0	.0024	44.5	29.2	29.7	39.2	.0039	41.0	31.5	32.1	29.6	.0026	44.2
10	28.2	28.8	31.0	.0032	42.6	28.8	29.6	38.2	.0037	41.4	31.3	31.9	29.6	.0026	44.2
11	—29.3	—29.9	24.6	0.0025	—44.4	—29.5	—30.2	38.2	0.0037	—41.4	—30.5	—31.3	29.6	0.0026	—44.2
Means.			34.01	0.0035	—41.85			39.79	0.0042	—40.25			32.96	0.0029	—43.36

Date.	JANUARY, 1873.														
	3.					4.					5.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	—30.7	—31.2	33.2	0.0030	—43.2	—32.7	—33.5	28.5	0.0021	—45.4	—19.5	—20.0	63.0	0.0106	—27.7
1	31.3	31.8	30.8	.0027	43.8	34.4	34.8	31.0	.0021	45.5	14.1	14.8	60.4	.0134	23.7
2	30.6	31.4	34.8	.0032	42.4	33.5	34.2	32.2	.0022	45.2	14.0	14.7	60.6	.0135	23.6
3	30.0	30.7	34.8	.0032	42.4	34.0	34.7	32.2	.0022	45.2	12.3	12.8	74.2	.0178	18.1
4	30.2	30.9	34.8	.0032	42.4	32.7	33.4	32.2	.0022	45.2	12.3	12.8	74.2	.0178	18.1
5	29.3	29.8	38.8	.0038	41.1	33.9	34.3	33.5	.0024	44.9	12.3	12.9	68.2	.0165	19.8
6	28.5	29.9	38.4	.0037	41.2	33.6	34.4	29.7	.0023	45.1	10.7	11.8	46.6	.0121	25.4
7	29.5	30.0	38.0	.0036	41.4	33.5	34.3	29.7	.0023	45.1	10.9	12.0	46.0	.0119	25.7
8	29.4	29.8	50.6	.0049	38.4	32.3	32.8	26.0	.0022	45.3	9.3	10.2	58.6	.0165	19.8
9	30.0	30.6	21.6	.0021	45.5	33.0	33.7	23.5	.0019	46.0	9.6	10.8	45.4	.0122	25.3
10	30.7	31.5	23.8	.0021	45.4	33.1	33.7	23.5	.0019	46.0	8.5	9.7	47.6	.0136	23.4
11	30.7	31.5	23.8	.0021	45.4	33.3	33.8	21.0	.0017	46.7	10.5	11.5	51.0	.0136	23.2
Noon.	30.9	31.7	23.8	.0021	45.4	32.6	33.2	30.0	.0030	43.2	17.5	18.2	54.4	.0100	28.7
1h	31.3	31.9	23.8	.0021	45.4	32.3	32.9	30.0	.0030	43.2	19.6	20.5	34.5	.0057	36.5
2	31.6	33.5	23.8	.0021	45.4	32.5	33.2	30.0	.0030	43.2	19.7	20.5	41.5	.0068	34.3
3	33.6	34.3	23.8	.0021	45.4	31.7	32.5	30.0	.0030	43.2	22.5	23.1	49.7	.0069	34.1
4	33.7	34.2	23.8	.0021	45.4	30.4	31.2	30.0	.0030	43.2	23.5	24.2	37.6	.0051	38.0
5	32.3	32.8	26.0	.0022	45.3	30.0	30.9	30.0	.0030	43.2	24.8	25.4	43.8	.0054	37.2
6	31.6	32.3	28.5	.0021	45.4	30.5	31.2	30.0	.0030	43.2	25.2	25.8	42.6	.0051	37.8
7	32.5	33.1	28.5	.0021	45.4	30.0	30.8	30.0	.0030	43.2	25.5	26.2	30.4	.0037	41.2
8	33.1	33.7	28.5	.0021	45.4	28.8	29.5	30.0	.0030	43.2	25.5	26.1	41.7	.0049	38.4
9	31.2	32.1	28.5	.0021	45.4	26.4	27.0	39.0	.0043	39.8	25.6	26.4	19.4	.0025	44.6
10	32.6	33.3	28.5	.0021	45.4	25.5	26.4	38.7	.0048	38.7	25.3	25.8	52.4	.0063	35.6
11	—33.4	—34.1	28.5	0.0021	—45.4	—23.2	—23.9	38.3	0.0053	—37.6	—26.3	—26.7	58.6	0.0068	—34.6
Means.			29.97	0.0026	—44.10			30.37	0.0028	—43.78			50.10	0.0099	—29.71

Date.	JANUARY, 1873.														
	6.					7.					8.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	—27.3	—27.8	46.6	0.0050	—38.4	—17.3	—17.7	73.6	0.0139	—23.0	—12.4	—13.1	62.9	0.0152	—21.3
1	27.6	28.5	40.5	.0043	40.0	17.3	17.9	61.1	.0114	26.5	12.3	12.9	68.2	.0165	19.8
2	27.5	28.1	34.5	.0036	41.6	16.8	17.5	55.5	.0107	27.7	12.0	12.6	68.8	.0168	19.3
3	26.4	26.9	49.3	.0055	37.1	17.2	17.8	61.2	.0115	26.4	11.5	12.2	64.6	.0162	20.0
4	26.5	26.9	58.2	.0066	34.8	16.8	17.4	61.6	.0119	25.9	11.5	12.0	75.0	.0188	17.2
5	26.5	27.1	38.6	.0043	40.0	16.5	17.2	55.8	.0110	27.2	11.7	12.6	53.8	.0135	23.4
6	27.9	28.6	20.0	.0022	45.3	16.0	16.7	56.6	.0114	26.5	13.3	13.9	67.1	.0153	21.2
7	26.9	27.6	25.0	.0028	43.7	16.4	17.0	62.0	.0122	25.3	12.5	13.2	62.8	.0150	21.4
8	27.3	27.7	56.6	.0062	35.8	16.4	16.9	69.1	.0135	25.5	12.5	13.0	74.0	.0176	18.5
9	27.2	27.8	35.8	.0038	41.0	14.8	15.7	46.9	.0101	28.4	12.6	13.2	67.8	.0162	20.2
10	27.9	28.4	44.4	.0046	39.2	14.6	14.9	84.0	.0178	18.3	13.0	13.7	62.3	.0145	22.2
11	27.0	27.8	34.4	.0037	41.5	14.0	14.9	49.2	.0110	27.1	12.7	13.5	57.0	.0135	23.4
Noon.	27.0	27.7	24.5	.0028	43.8	14.0	14.7	60.6	.0135	23.6	12.9	13.7	56.6	.0133	23.7
1h	26.5	27.2	27.0	.0030	43.1	18.5	18.9	72.1	.0127	24.6	13.5	14.2	61.6	.0140	22.8
2	24.8	25.3	53.4	.0067	34.9	17.8	18.6	46.2	.0085	31.3	14.3	14.8	72.2	.0157	20.7
3	24.0	24.7	36.6	.0048	38.7	11.8	12.5	64.0	.0158	20.5	15.5	16.2	57.6	.0119	25.7
4	22.8	23.5	39.5	.0057	37.0	11.1	11.7	70.3	.0181	18.2	16.4	17.1	55.9	.0111	27.1
5	22.1	22.8	41.8	.0060	36.0	11.2	11.9	65.1	.0165	19.7	16.7	17.5	49.0	.0096	29.4
6	21.5	22.2	44.2	.0066	35.0	11.3	11.9	70.1	.0178	18.4	17.1	17.7	61.3	.0116	26.3
7	20.5	21.2	46.6	.0074	33.4	11.4	12.1	64.8	.0164	19.9	16.5	17.2	55.8	.0110	27.2
8	19.7	20.3	55.4	.0092	30.1	11.5	12.3	59.4	.0150	21.6	16.4	16.9	69.1	.0135	23.5
9	19.2	19.7	49.9	.0086	31.1	12.0	12.7	63.6	.0156	20.8	16.3	17.0	56.0	.0111	26.9
10	18.9	19.5	57.5	.0099	29.0	11.5	12.4	54.2	.0137	23.1	17.0	17.5	68.0	.0129	24.3
11	—17.5	—18.2	54.4	0.0100	—28.7	—12.0	—12.7	63.6	0.0156	—20.8	—17.2	—17.7	67.6	0.0127	—24.7
Means.			42.28	0.0056	—37.47			62.11	0.0136	—23.76			63.12	0.0141	—22.51

Date.	JANUARY, 1873.														
	9.					10.					11.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	—17.2	—17.7	67.6	0.0127	—24.6	—15.9	—16.5	63.0	0.0127	—21.6	—24.3	—24.7	62.6	0.0082	—32.0
1	17.8	18.4	60.2	.0109	27.2	16.3	16.8	69.2	.0136	23.4	24.7	25.4	34.0	.0043	39.8
2	17.6	18.2	60.6	.0111	26.9	16.2	16.8	62.4	.0124	25.0	25.3	25.7	60.6	.0075	33.2
3	17.5	18.2	54.4	.0100	28.7	16.4	15.9	70.2	.0145	22.1	25.6	26.2	41.4	.0048	38.5
4	17.5	18.2	54.4	.0100	28.7	15.8	16.6	50.8	.0104	27.9	25.6	26.2	41.4	.0048	38.5
5	17.4	18.1	54.7	.0101	28.6	15.7	16.3	63.4	.0129	24.3	26.3	26.9	39.3	.0044	39.6
6	17.9	18.5	60.0	.0108	27.4	15.9	16.6	56.8	.0115	26.3	26.6	27.3	26.5	.0030	43.2
7	18.1	18.8	52.6	.0094	29.7	15.9	16.6	56.8	.0115	26.3	27.3	27.8	46.6	.0050	38.4
8	18.1	18.8	52.6	.0094	29.7	15.7	15.7	100.0	.0204	15.8	28.7	29.5	32.1	.0037	41.7
9	17.9	18.7	45.9	.0084	31.5	15.4	16.0	64.0	.0132	23.8	32.5	33.2	32.1	.0037	41.7
10	17.9	18.6	53.2	.0096	29.3	15.4	15.9	70.2	.0145	22.1	31.5	32.1	32.1	.0037	41.7
11	18.1	18.8	52.6	.0094	29.7	15.0	15.7	58.6	.0124	25.0	32.5	33.1	32.1	.0037	41.7
Noon.	17.7	18.3	60.4	.0110	27.1	15.6	16.2	63.6	.0130	24.1	32.0	32.5	27.5	.0024	45.0
1h	17.9	18.5	60.0	.0108	27.4	16.3	16.9	62.2	.0123	25.2	32.3	32.9	30.2	.0023	45.0
2	17.8	18.5	53.5	.0097	29.2	16.3	16.9	62.2	.0123	25.2	33.3	33.9	30.2	.0023	45.0
3	17.8	18.5	53.5	.0097	29.2	16.6	17.4	49.2	.0097	29.2	34.0	34.4	33.0	.0023	45.1
4	17.6	18.5	40.5	.0074	33.1	17.0	17.6	61.4	.0117	26.2	35.5	36.4	34.6	.0024	44.1
5	17.4	18.1	54.7	.0101	28.6	17.4	18.0	61.0	.0113	26.6	34.8	35.6	34.6	.0024	44.1
6	17.3	17.9	61.1	.0114	26.5	17.8	18.5	53.5	.0096	29.3	33.3	33.7	36.2	.0026	43.1
7	17.1	17.8	55.2	.0104	28.1	19.9	20.7	40.9	.0066	34.6	33.7	34.4	36.1	.0022	44.5
8	16.5	17.4	43.2	.0084	31.2	21.0	21.7	45.6	.0070	34.3	35.5	36.3	36.1	.0022	44.5
9	16.4	17.1	55.9	.0111	27.1	21.5	22.2	44.2	.0066	35.0	36.0	36.6	36.1	.0022	44.5
10	16.4	17.0	62.0	.0122	25.3	22.3	22.9	50.2	.0070	33.9	38.1	38.7	36.1	.0022	44.5
11	—16.2	—16.8	62.4	0.0124	25.0	—23.2	—23.8	47.6	0.0065	—35.2	—39.3	—39.7	36.1	0.0022	—44.5
Means.			55.44	0.0103	—28.33			59.48	0.0114	—26.85			36.98	0.0035	—41.83

Date.	JANUARY, 1873.														
	12.					13.					14.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°
0h	—39.6	—40.0	36.1	0.0022	—44.5	—33.7	—34.2	28.8	0.0021	—44.8	—29.5	—29.8	63.4	0.0060	—36.1
1	40.3	40.9	36.1	.0022	44.5	33.3	33.7	36.2	.0026	43.1	29.0	29.7	45.8	.0044	39.8
2	40.3	40.8	36.1	.0022	44.5	32.9	33.3	37.8	.0028	43.0	28.7	29.3	28.2	.0029	43.5
3	38.2	38.6	36.1	.0022	44.5	32.6	33.2	34.3	.0027	43.4	28.7	29.5	29.5	.0028	43.6
4	37.5	37.9	36.1	.0022	44.5	31.3	31.8	30.8	.0027	43.8	31.3	31.8	30.8	.0027	43.8
5	38.6	39.2	36.1	.0022	44.5	31.3	31.8	30.8	.0027	43.8	32.3	32.7	40.2	.0033	42.5
6	37.9	38.3	36.1	.0022	44.5	31.2	31.7	31.2	.0028	43.7	33.3	33.6	52.6	.0039	40.7
7	37.3	37.6	36.0	.0019	45.9	31.7	32.3	29.1	.0025	44.4	33.5	34.1	38.6	.0027	43.9
8	37.3	37.8	35.5	.0027	43.6	32.1	32.7	29.1	.0025	44.4	34.0	34.5	38.6	.0027	43.9
9	37.5	37.9	35.5	.0027	43.6	32.1	32.6	27.0	.0023	45.1	34.3	34.8	38.6	.0027	43.9
10	36.8	37.5	35.5	.0027	43.6	31.7	32.3	29.1	.0025	44.4	35.5	35.9	24.6	.0016	47.1
11	36.5	37.2	35.5	.0027	43.6	31.2	31.7	31.2	.0028	43.7	35.7	36.1	27.1	.0021	45.7
Noon.	36.7	37.2	35.5	.0027	43.6	31.8	32.5	51.9	.0044	39.8	35.9	36.4	27.1	.0021	45.7
1h	35.5	36.1	35.5	.0027	43.6	31.7	32.4	51.9	.0044	39.8	35.8	36.2	27.1	.0021	45.7
2	33.5	34.3	35.5	.0027	43.6	31.5	31.7	72.6	.0061	35.9	34.9	35.5	27.1	.0021	45.7
3	34.2	34.7	35.5	.0027	43.6	30.8	31.3	32.8	.0030	43.3	33.7	34.5	27.1	.0021	45.7
4	33.9	34.5	35.5	.0027	43.6	30.4	31.0	20.0	.0019	46.0	34.5	35.2	27.1	.0021	45.7
5	33.9	34.5	35.5	.0027	43.6	30.4	30.9	34.4	.0032	42.7	33.9	34.5	27.1	.0021	45.7
6	27.4	28.0	35.0	.0036	41.4	31.3	31.8	30.8	.0027	43.8	33.9	34.8	27.1	.0021	45.7
7	26.5	27.1	38.6	.0043	40.0	30.2	30.7	35.2	.0033	42.5	33.5	34.1	27.1	.0021	45.7
8	26.4	28.0	35.0	.0036	41.4	30.0	30.6	21.6	.0021	45.5	33.4	33.9	27.1	.0021	45.7
9	25.8	26.5	29.5	.0035	41.8	29.5	30.1	23.6	.0024	44.7	32.5	33.1	27.1	.0021	45.7
10	26.2	26.7	49.9	.0057	36.8	29.7	30.2	37.2	.0035	41.8	32.5	33.2	27.1	.0021	45.7
11	—33.2	—33.7	21.5	0.0017	—46.6	—29.5	—30.0	38.0	0.0036	—41.4	—33.4	—34.0	27.1	0.0021	—45.7
Means.			35.55	0.0028	—43.40			34.39	0.0030	—43.12			32.63	0.0026	—44.29

Date.	JANUARY, 1873.														
	15.					16.					17.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°
0h	—32.8	—33.7	27.1	0.0021	—45.7	—27.1	—27.7	36.2	0.0039	—40.9	—34.0	—34.5	31.7	0.0026	—44.3
1	33.4	34.2	27.1	.0021	45.7	26.7	27.5	36.4	.0039	40.8	31.5	32.1	31.7	.0026	44.3
2	33.4	34.2	27.1	.0021	45.7	27.0	27.6	36.6	.0040	40.7	32.6	33.2	31.7	.0026	44.3
3	34.3	35.0	27.1	.0021	45.7	27.5	28.0	46.0	.0048	38.6	32.3	33.0	31.7	.0026	44.3
4	34.3	35.0	27.1	.0021	45.7	28.3	28.8	42.8	.0044	39.6	32.7	33.2	24.0	.0020	45.8
5	32.5	33.2	27.1	.0021	45.7	29.3	29.7	50.9	.0050	38.3	33.8	34.3	27.0	.0020	45.7
6	35.1	35.8	27.1	.0021	45.7	29.2	29.6	51.2	.0050	38.2	33.5	34.1	27.0	.0020	45.7
7	31.8	32.6	27.1	.0021	45.7	28.6	29.0	53.0	.0053	37.4	34.6	35.0	30.0	.0020	45.7
8	32.8	33.4	27.1	.0021	45.7	28.7	29.3	28.2	.0029	43.5	35.6	35.9	44.4	.0028	43.6
9	31.6	32.1	29.5	.0026	44.3	29.5	29.8	63.4	.0060	36.1	33.3	33.8	21.0	.0017	46.7
10	30.8	31.5	28.2	.0027	44.1	30.8	31.2	46.2	.0041	40.4	38.1	38.6	23.1	.0016	46.8
11	30.9	31.6	28.2	.0027	44.1	30.7	31.2	33.2	.0030	43.2	36.6	37.1	23.1	.0016	46.8
Noon.	29.3	30.0	28.2	.0027	44.1	31.6	32.1	29.5	.0026	44.3	35.4	35.8	25.2	.0016	46.9
1h	28.9	29.6	28.2	.0027	44.1	33.1	33.7	25.7	.0022	45.3	35.5	35.9	24.6	.0016	47.1
2	28.9	29.5	27.0	.0028	43.8	33.1	33.6	22.0	.0018	46.4	37.6	38.0	23.5	.0017	46.7
3	29.6	30.1	37.6	.0036	41.6	32.5	33.6	24.0	.0020	45.8	37.3	37.7	23.5	.0017	46.7
4	30.4	30.8	47.6	.0043	39.7	32.5	33.2	24.0	.0020	45.8	37.1	37.7	23.5	.0017	46.7
5	28.5	29.2	43.8	.0041	40.2	32.3	32.8	26.0	.0022	45.3	38.3	38.9	23.5	.0017	46.7
6	29.0	29.7	43.8	.0041	40.2	31.4	31.9	30.4	.0027	43.9	38.0	38.7	23.5	.0017	46.7
7	29.0	29.5	40.0	.0040	40.8	32.5	32.9	39.4	.0032	42.8	37.9	38.5	23.5	.0017	46.7
8	29.5	30.1	23.6	.0024	44.7	33.5	34.2	31.7	.0026	44.3	40.1	40.7	23.5	.0017	46.7
9	28.9	29.5	27.0	.0028	43.8	33.5	34.3	31.7	.0026	44.3	38.0	38.7	23.5	.0017	46.7
10	27.7	28.5	32.6	.0035	41.9	34.0	34.6	31.7	.0026	44.3	38.0	38.7	23.5	.0017	46.7
11	—26.6	—27.2	38.2	0.0042	—40.1	—33.5	—34.3	31.7	0.0026	—44.3	—38.0	—38.7	23.5	0.0017	—46.7
Means.			31.14	0.0028	—43.70			36.33	0.0034	—42.35			26.30	0.0019	—46.04

Date.	JANUARY, 1873.														
	18.					19.					20.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0^h	—38.0	—38.7	23.5	0.0017	—46.7	—32.0	—32.5	27.5	0.0024	—45.0	—30.6	—31.2	44.2	0.0050	—38.6
1	39.7	40.0	23.5	.0017	46.7	32.0	32.5	27.5	.0024	45.0	32.4	32.8	39.8	.0032	42.6
2	39.0	39.6	23.5	.0017	46.7	31.5	32.1	27.2	.0023	45.0	32.9	33.4	23.0	.0019	46.1
3	38.3	38.7	23.5	.0017	46.7	32.1	32.6	27.0	.0023	45.1	32.5	33.1	24.0	.0020	45.8
4	38.5	38.9	23.5	.0017	46.7	32.6	33.1	24.5	.0020	45.6	32.8	33.5	24.0	.0020	45.8
5	38.6	39.0	23.5	.0017	46.7	33.8	34.4	30.9	.0024	44.3	32.5	33.0	25.0	.0021	45.5
6	34.6	35.2	23.5	.0017	46.7	33.9	34.5	30.9	.0024	44.3	31.5	32.1	40.1	.0039	41.0
7	33.0	33.5	22.5	.0018	46.3	33.3	33.7	37.4	.0028	43.0	31.1	31.7	40.1	.0039	41.0
8	30.7	31.4	35.1	.0035	42.1	32.7	33.1	38.6	.0029	42.9	29.5	30.2	40.1	.0039	41.0
9	26.9	27.4	47.8	.0052	37.8	33.3	33.6	52.6	.0039	40.7	27.9	28.3	55.1	.0058	36.6
10	27.0	27.6	36.6	.0040	40.7	34.2	31.6	32.0	.0022	45.3	26.4	26.7	69.3	.0079	32.4
11	28.7	29.2	41.2	.0041	40.4	35.4	35.7	45.2	.0029	43.4	24.6	24.9	72.1	.0091	30.2
Noon.	29.3	29.7	50.9	.0050	38.3	34.5	35.0	44.3	.0033	42.3	23.7	24.3	46.4	.0062	35.9
1^h	30.3	30.7	47.9	.0044	39.6	31.5	31.9	43.4	.0037	41.2	23.9	24.4	55.2	.0073	33.6
2	30.7	31.4	48.6	.0045	39.3	31.5	32.1	32.1	.0028	43.5	23.6	24.2	46.6	.0062	35.8
3	29.8	30.2	49.4	.0046	39.1	31.5	32.2	32.1	.0028	43.5	22.8	23.5	39.5	.0057	37.0
4	27.7	28.2	45.2	.0047	39.0	32.0	32.6	32.1	.0028	43.5	22.9	23.5	48.5	.0067	34.7
5	28.3	28.7	53.9	.0056	37.0	30.2	30.8	20.8	.0020	45.8	24.2	24.7	54.6	.0070	34.0
6	27.5	28.1	34.5	.0036	41.6	30.3	30.9	20.4	.0019	45.9	24.4	24.9	54.2	.0068	34.3
7	28.0	28.6	32.0	.0033	42.3	29.5	30.1	23.6	.0024	44.7	25.4	26.0	42.0	.0049	38.2
8	28.2	28.7	43.2	.0045	39.5	28.1	28.7	31.5	.0033	42.5	27.9	28.6	20.0	.0022	45.3
9	28.0	28.8	37.0	.0036	41.6	27.5	28.2	22.0	.0024	44.5	27.8	28.6	23.2	.0024	44.6
10	29.5	30.2	37.0	.0036	41.6	26.3	26.7	58.6	.0068	34.6	29.0	29.6	26.4	.0027	44.0
11	—31.3	—31.8	30.8	0.0027	—43.8	—28.5	—29.3	44.2	0.0050	—38.6	—29.0	—29.6	26.4	0.0027	—44.0
Means.			35.75	0.0034	—42.37			33.60	0.0029	—43.34			40.82	0.0046	—39.50

Date.	JANUARY, 1873.														
	21.					22.					23.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0^h	—28.5	—29.3	32.2	0.0031	—42.7	—36.4	—37.0	30.3	0.0024	—44.6	—32.3	—32.8	26.0	0.0022	—45.3
1	29.5	30.0	38.0	.0036	41.4	35.7	36.5	30.3	.0024	44.6	32.7	33.4	23.0	.0019	46.1
2	29.7	30.2	37.2	.0035	41.8	35.8	36.4	30.3	.0024	44.6	33.5	34.0	20.0	.0016	47.0
3	29.5	30.1	23.6	.0024	44.7	35.7	36.3	30.3	.0024	44.6	34.4	34.9	27.2	.0017	47.2
4	29.6	30.2	23.2	.0023	44.9	35.5	36.0	30.3	.0024	44.6	36.0	36.7	27.2	.0017	47.2
5	30.2	30.7	35.2	.0033	42.5	35.6	36.2	30.3	.0024	44.6	36.0	36.7	27.2	.0017	47.2
6	31.1	31.6	31.6	.0028	43.6	34.8	35.4	30.3	.0024	44.6	35.8	36.3	27.2	.0017	47.2
7	32.3	32.8	26.0	.0022	45.3	34.3	34.8	30.3	.0024	44.6	36.6	37.2	27.2	.0017	47.2
8	33.3	33.8	21.0	.0017	46.7	32.3	32.7	40.2	.0033	42.5	36.8	37.2	27.2	.0017	47.2
9	32.7	33.1	38.6	.0029	42.9	29.5	29.8	63.4	.0060	36.1	35.7	36.2	27.2	.0017	47.2
10	33.4	33.9	20.5	.0016	46.8	29.0	29.7	52.7	.0051	38.1	37.4	37.8	27.2	.0017	47.2
11	33.8	34.3	30.3	.0024	44.6	28.5	29.0	42.0	.0042	40.0	38.4	38.7	27.2	.0017	47.4
Noon.	35.0	35.6	30.3	.0024	44.6	28.3	28.9	30.5	.0031	42.8	36.5	37.0	27.2	.0017	46.8
1^h	36.5	36.9	30.3	.0024	44.6	27.5	28.0	46.0	.0048	38.6	36.6	37.2	27.2	.0017	46.8
2	35.9	36.3	30.3	.0024	44.6	27.3	27.9	35.4	.0037	41.3	37.6	38.1	27.2	.0017	46.8
3	36.0	36.6	30.3	.0024	44.6	28.5	29.1	29.4	.0030	43.2	37.6	38.2	27.2	.0017	46.8
4	36.5	37.3	30.3	.0024	44.6	28.3	29.8	38.8	.0038	41.1	38.3	38.7	27.2	.0017	46.8
5	37.5	38.1	30.3	.0024	44.6	30.5	31.1	29.4	.0028	43.5	38.5	39.0	27.2	.0017	46.8
6	37.6	38.3	30.3	.0024	44.6	30.5	31.1	29.4	.0028	43.5	37.7	38.3	27.2	.0017	46.8
7	36.7	37.3	30.3	.0024	44.6	30.4	31.0	20.0	.0019	46.0	37.4	37.9	27.2	.0017	46.8
8	36.3	36.8	30.3	.0024	44.6	30.5	31.2	23.0	.0020	45.6	37.5	38.2	27.2	.0017	46.8
9	36.3	36.8	30.3	.0024	44.6	30.8	31.5	23.0	.0020	45.6	37.7	38.3	27.2	.0017	46.8
10	36.5	37.1	30.3	.0024	44.6	31.3	31.9	23.0	.0020	45.6	36.6	37.2	27.2	.0017	46.8
11	—36.3	—36.8	30.3	0.0024	—44.6	—31.4	—32.0	23.0	0.0020	—45.6	—36.9	—37.5	27.2	0.0017	—46.8
Means.			29.62	0.0025	—44.30			32.98	0.0030	—43.16			26.92	0.0017	—46.88

Date.	January, 1873.														
	24.					25.					26.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°
0h	—37.6	—38.2	27.2	0.0017	—46.8	—37.0	—37.6	37.7	0.0021	—45.3	—36.3	—36.8	7.0	0.0003	—51.1
1	37.5	38.0	27.2	.0017	46.8	35.7	36.2	37.7	.0021	45.3	37.3	37.8	------	------	------
2	37.4	37.8	27.2	.0017	46.8	36.4	36.7	40.5	.0024	44.6	37.8	38.3	------	------	------
3	37.6	37.9	34.5	.0018	46.2	35.7	36.2	48.7	.0028	43.6	37.4	37.8	------	------	------
4	37.5	37.8	35.0	.0018	46.1	37.5	37.9	48.7	.0028	43.6	36.9	37.4	------	------	------
5	36.6	37.0	37.7	.0021	45.3	37.2	37.4	56.8	.0032	42.6	37.0	37.6	------	------	------
6	36.7	37.2	37.7	.0021	45.3	37.5	37.9	43.4	.0040	44.1	37.5	38.0	------	------	------
7	35.9	36.5	37.7	.0021	45.3	38.4	38.4	100.0	.0048	38.5	38.3	38.7	------	------	------
8	36.6	37.3	37.7	.0021	45.3	39.0	39.5	43.4	.0034	44.1	39.0	39.6	------	------	------
9	37.6	38.2	37.7	.0021	45.3	36.6	37.2	43.4	.0034	44.1	39.5	39.8	------	------	------
10	38.7	39.4	37.7	.0021	45.3	35.5	36.0	43.4	.0034	44.1	40.4	40.7	------	------	------
11	39.7	40.2	37.7	.0021	45.3	35.5	36.0	43.4	.0034	44.1	40.9	41.4	------	------	------
Noon.	40.3	40.7	37.7	.0021	45.3	34.6	35.0	30.0	.0020	45.7	41.5	42.1	------	------	------
1h	40.5	40.9	37.7	.0021	45.3	34.5	34.9	30.5	.0021	45.6	38.7	39.5	------	------	------
2	39.0	39.5	37.7	.0021	45.3	32.5	33.2	35.1	.0026	43.8	38.6	39.0	------	------	------
3	40.5	41.0	37.7	.0021	45.3	32.4	32.8	39.8	.0032	42.6	39.7	40.4	------	------	------
4	41.0	41.4	37.7	.0021	45.3	32.5	33.3	32.9	.0027	43.9	38.5	39.0	------	------	------
5	40.1	40.7	37.7	.0021	45.3	32.3	32.8	26.0	.0022	45.3	36.7	37.5	------	------	------
6	36.7	37.3	37.7	.0021	45.3	33.4	33.9	20.5	.0016	46.8	35.7	36.3	------	------	------
7	37.0	37.5	37.7	.0021	45.3	34.3	34.8	20.3	.0016	46.9	36.3	36.8	------	------	------
8	34.5	35.0	37.7	.0021	45.3	34.2	34.7	20.2	.0016	46.9	36.4	37.0	------	------	------
9	35.8	36.3	37.7	.0021	45.3	33.5	34.0	20.0	.0016	47.0	36.9	37.6	------	------	------
10	35.3	35.7	37.7	.0021	45.3	34.0	34.6	47.0	.0024	44.6	37.2	37.8	------	------	------
11	—35.3	—35.8	37.7	0.0021	—45.3	—35.5	—36.0	47.0	0.0024	—44.6	—37.9	—38.7	------	------	------
Means.			36.14	0.0020	—45.56			39.85	0.0027	—44.72					

Date.	January, 1873.														
	27.					28.					29.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°
0h	—39.5	—39.8	47.0	0.0024	—44.6	—23.5	—24.1	46.8	0.0063	—35.6	—39.2	—40.6	39.8	0.0036	—41.9
1	39.6	39.9	47.0	.0024	44.6	24.3	24.7	62.6	.0082	32.0	40.5	41.0	39.8	.0036	41.9
2	39.4	39.5	74.0	.0033	42.3	23.6	24.5	19.0	.0027	45.0	39.7	40.3	39.8	.0036	41.9
3	39.6	40.0	58.0	.0037	41.1	23.3	23.8	56.4	.0076	32.7	38.8	39.4	39.8	.0036	41.9
4	39.7	40.2	58.0	.0037	41.1	23.5	24.4	19.2	.0028	44.8	38.5	38.9	39.8	.0036	41.9
5	36.5	37.0	58.0	.0037	41.1	23.4	24.0	47.0	.0063	35.4	38.9	39.5	39.8	.0036	41.9
6	37.4	37.8	58.0	.0037	41.1	24.7	25.3	44.1	.0055	37.1	39.3	39.7	39.8	.0036	41.9
7	36.0	36.5	58.0	.0037	41.1	24.4	25.0	45.0	.0056	36.6	39.4	39.8	39.8	.0036	41.9
8	35.6	35.9	58.0	.0037	41.1	24.3	24.8	54.4	.0069	34.2	39.9	40.4	39.8	.0036	41.9
9	28.5	29.0	42.0	.0042	40.0	26.3	26.8	49.6	.0056	37.0	40.7	41.1	39.8	.0036	41.9
10	23.7	24.2	55.6	.0074	33.3	26.8	27.5	25.5	.0029	43.5	41.5	42.0	39.8	.0036	41.9
11	22.5	23.1	49.7	.0069	34.1	28.0	28.6	32.0	.0033	42.3	40.9	41.5	39.8	.0036	41.9
Noon.	21.5	22.1	51.8	.0078	32.7	28.4	28.9	42.4	.0043	39.8	38.3	38.8	39.8	.0036	41.9
1h	22.5	23.0	58.0	.0082	31.7	30.5	31.0	34.0	.0031	42.8	35.5	36.1	39.8	.0036	41.9
2	23.4	23.9	56.2	.0075	32.8	30.4	30.8	47.6	.0043	39.7	33.7	34.5	39.8	.0036	41.9
3	23.0	23.5	57.0	.0079	32.4	30.6	31.1	33.6	.0031	43.0	28.5	29.2	39.8	.0036	41.9
4	23.3	23.8	56.4	.0076	32.7	30.3	30.8	34.8	.0032	42.6	28.3	28.7	53.9	.0056	37.0
5	23.3	23.8	56.4	.0076	32.7	31.0	31.7	35.3	.0029	42.9	28.5	29.5	37.9	.0039	40.7
6	22.5	23.4	22.4	.0035	41.9	33.4	33.8	35.8	.0026	43.2	27.5	28.2	22.0	.0024	44.5
7	23.0	23.7	38.9	.0055	37.3	35.3	35.7	25.8	.0017	46.8	27.5	28.2	22.0	.0024	44.5
8	22.9	23.6	39.2	.0056	37.1	37.2	37.6	39.8	.0036	41.9	26.5	27.1	38.6	.0043	40.0
9	23.0	23.7	38.9	.0055	37.3	37.5	38.2	39.8	.0036	41.9	26.5	27.2	27.0	.0030	43.1
10	23.3	24.0	38.0	.0052	37.7	39.3	39.7	39.8	.0036	41.9	28.9	29.6	29.3	.0029	43.3
11	—23.1	—23.8	38.6	0.0054	—37.4	—39.5	—40.0	39.8	0.0036	—41.9	—29.7	—30.5	29.3	0.0029	—43.3
Means.			50.63	0.0053	—37.88			39.63	0.0043	—40.19			37.78	0.0035	—41.95

Date.	JANUARY, 1873.										FEBRUARY, 1873.				
	30.					31.					1.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	−31.1	−31.6	31.6	0.0028	−43.6	−19.5	−20.2	48.6	0.0082	−31.0	−32.7	−33.2	24.0	0.0020	−45.8
1	32.4	32.8	39.8	.0032	42.6	18.8	19.5	50.5	.0088	30.9	34.5	35.0	23.0	.0019	46.1
2	35.4	35.9	48.0	.0046	45.0	18.0	18.7	53.0	.0095	29.5	36.6	37.1	23.0	.0019	46.1
3	37.0	37.5	48.0	.0046	45.0	18.3	18.9	59.2	.0104	28.0	35.4	36.0	23.0	.0019	46.1
4	38.4	38.7	48.0	.0046	47.4	18.9	19.5	57.5	.0099	29.0	33.1	33.6	22.0	.0018	46.4
5	39.6	40.3	48.0	.0046	41.7	19.3	19.7	71.3	.0120	25.5	31.5	32.0	39.0	.0026	44.1
6	40.2	40.6	48.0	.0046	41.7	19.3	19.9	56.3	.0095	29.4	30.5	31.0	34.0	.0031	42.8
7	40.3	40.6	48.0	.0046	41.7	19.5	20.2	48.6	.0082	31.0	31.8	32.4	36.2	.0034	42.0
8	41.7	42.1	48.0	.0046	41.7	19.5	20.0	63.0	.0106	27.7	31.0	31.7	36.2	.0034	42.0
9	41.6	42.0	48.0	.0046	41.7	19.6	20.1	62.9	.0105	27.9	30.8	31.5	36.2	.0034	42.0
10	41.8	42.1	48.0	.0046	41.7	19.6	20.1	62.9	.0105	27.9	30.8	31.5	36.2	.0034	42.0
11	41.6	42.0	48.0	.0046	41.7	19.5	19.9	71.1	.0118	25.7	29.4	29.9	38.4	.0037	41.2
Noon.	35.5	36.0	48.0	.0046	41.7	19.5	20.0	63.0	.0106	27.7	30.4	30.7	61.6	.0055	37.1
1h	35.9	36.3	48.0	.0046	41.7	19.8	20.5	48.0	.0079	30.5	30.3	30.8	34.8	.0032	42.6
2	34.4	35.0	48.0	.0046	41.7	19.9	20.5	55.0	.0090	30.5	28.5	28.9	53.3	.0054	37.2
3	35.1	35.7	48.0	.0046	41.7	20.3	20.8	62.2	.0099	28.7	28.4	28.9	42.4	.0043	39.8
4	33.5	34.4	48.0	.0046	41.7	20.5	21.3	39.1	.0062	35.7	27.9	28.6	20.0	.0022	45.3
5	33.5	34.0	48.0	.0046	41.7	22.3	23.1	32.6	.0048	38.6	26.5	27.1	38.6	.0043	40.0
6	32.4	33.0	48.0	.0046	41.7	24.3	24.8	54.4	.0069	34.2	26.5	27.2	27.0	.0030	43.1
7	33.7	34.2	48.0	.0046	41.7	26.4	26.9	49.3	.0055	37.1	30.3	30.8	34.8	.0032	42.6
8	31.5	32.3	48.0	.0046	41.7	26.7	27.5	47.8	.0052	37.8	31.0	31.5	32.0	.0029	43.5
9	30.5	31.3	48.0	.0046	41.7	27.4	27.9	46.3	.0049	38.5	26.0	26.7	28.9	.0034	42.2
10	29.0	29.7	48.0	.0046	41.7	28.5	29.1	35.1	.0034	42.1	25.8	26.5	29.5	.0035	41.8
11	−27.5	−27.9	56.2	0.0060	−36.0	−31.1	−31.7	35.1	0.0034	−42.1	−26.2	−26.7	49.9	0.0057	−36.8
Means.			47.32	0.0045	−42.09			52.62	0.0082	−31.96			34.00	0.0033	−42.44

Date.	FEBRUARY, 1873.														
	2.					3.					4.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	−26.5	−27.3	46.3	0.0050	−33.2	−22.5	−23.0	58.0	0.0082	−31.7	−19.3	−20.6	77.4	0.0123	−25.1
1	28.3	28.8	42.8	.0044	39.6	21.5	22.2	44.2	.0066	35.0	18.5	19.1	58.7	.0103	28.3
2	29.5	29.9	50.3	.0048	38.5	20.0	20.6	54.8	.0089	30.7	17.5	18.0	67.0	.0125	24.9
3	27.0	27.6	36.6	.0040	40.7	20.3	20.8	62.2	.0099	28.7	16.5	17.0	69.0	.0134	23.6
4	27.5	27.9	56.2	.0060	36.0	20.5	21.0	62.0	.0098	29.0	15.8	16.3	69.7	.0141	22.7
5	27.0	27.6	36.6	.0040	40.7	19.7	20.1	69.9	.0117	26.1	15.1	15.7	64.3	.0136	23.3
6	23.7	24.4	37.2	.0050	38.3	17.8	18.5	53.5	.0097	29.2	14.4	14.9	72.1	.0156	20.9
7	25.1	25.5	61.0	.0077	33.0	19.7	20.0	78.0	.0129	24.3	13.5	14.2	62.6	.0140	22.8
8	23.8	24.5	37.0	.0050	38.4	19.5	19.8	78.2	.0130	24.0	14.7	15.5	53.0	.0115	26.4
9	22.7	23.2	57.6	.0081	32.1	18.7	19.3	58.1	.0101	28.7	16.5	17.0	69.0	.0134	23.6
10	22.3	22.8	58.4	.0083	31.5	18.4	18.8	72.2	.0128	24.4	17.8	18.5	53.5	.0097	29.2
11	22.3	22.8	58.4	.0083	31.5	18.8	19.4	57.8	.0100	28.9	16.7	17.3	61.7	.0120	25.8
Noon.	22.3	22.7	66.6	.0095	29.4	19.5	19.9	71.1	.0118	25.7	20.1	20.7	54.6	.0088	30.9
1h	21.3	21.7	68.3	.0104	28.2	19.4	19.8	71.2	.0119	25.6	19.4	19.8	71.2	.0119	25.6
2	21.5	22.0	60.0	.0090	30.3	18.7	19.3	58.1	.0101	28.7	17.8	18.5	53.5	.0097	29.2
3	21.7	22.3	51.4	.0076	33.0	20.1	20.7	54.6	.0088	30.9	18.8	19.7	36.9	.0064	35.1
4	20.9	21.4	61.2	.0095	29.4	20.0	20.7	47.6	.0077	30.3	19.7	20.3	55.4	.0092	30.1
5	21.0	21.6	52.8	.0082	32.1	21.3	21.8	60.4	.0091	29.9	19.3	19.9	56.3	.0095	29.4
6	20.3	20.8	62.2	.0099	28.7	21.3	21.7	68.3	.0104	28.2	18.5	19.2	51.4	.0091	30.4
7	20.3	20.8	62.2	.0099	28.7	21.0	21.6	52.8	.0082	32.1	17.5	18.2	54.4	.0100	28.7
8	20.5	21.1	53.8	.0085	31.4	21.1	21.7	52.6	.0081	32.2	16.0	16.7	56.6	.0114	26.5
9	20.5	21.1	53.8	.0085	31.4	21.0	21.7	45.6	.0070	34.3	15.5	16.1	63.8	.0131	24.0
10	20.6	21.3	46.4	.0073	33.6	21.6	22.2	51.6	.0077	32.8	15.3	15.9	64.1	.0133	23.7
11	−21.0	−21.5	61.0	0.0094	−29.5	−21.0	−21.7	45.6	0.0070	−34.3	−14.8	−15.5	59.0	0.0126	−24.7
Means.			53.25	0.0074	−33.30			59.52	0.0096	−29.40			60.22	0.0116	−26.45

Date.	FEBRUARY, 1873.														
	5.					6.					7.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. .	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	—14.2	—14.7	72.3	0.0158	—20.6	— 8.0	— 8.9	61.1	0.0182	—18.0	—22.1	—22.7	42.2	0.0061	—35.9
1	11.6	12.2	69.6	.0173	18.8	12.3	13.5	37.5	.0091	30.3	21.5	22.5	37.6	.0057	36.6
2	11.6	12.2	69.6	.0173	18.8	13.1	13.9	56.2	.0131	24.0	20.1	21.0	33.0	.0053	37.3
3	11.5	12.1	69.8	.0175	18.7	15.5	16.5	40.0	.0082	32.0	17.8	18.8	33.6	.0060	35.9
4	11.5	12.1	69.8	.0175	18.7	15.6	16.7	33.9	.0069	34.2	16.3	16.9	62.2	.0123	25.2
5	11.0	11.6	70.4	.0182	18.0	15.4	16.2	51.6	.0108	27.3	15.6	16.5	62.2	.0093	30.0
6	11.3	11.7	80.0	.0202	15.7	14.0	14.7	60.6	.0135	23.6	16.3	16.9	62.2	.0123	25.2
7	11.3	11.8	75.2	.0190	16.8	13.3	13.9	67.1	.0154	21.1	16.9	18.0	30.0	.0057	36.6
8	11.1	11.6	75.4	.0193	16.6	10.9	11.5	70.5	.0183	17.9	17.5	19.0	38.1	.0071	33.9
9	10.4	11.2	60.8	.0163	19.9	9.4	9.9	77.1	.0214	14.6	17.8	18.6	46.2	.0085	31.3
10	9.6	10.2	71.8	.0199	16.0	9.6	10.4	76.9	.0212	14.9	17.3	18.0	55.0	.0102	28.4
11	9.7	10.2	76.8	.0210	15.0	8.7	9.5	63.5	.0185	17.5	16.6	17.4	49.2	.0097	29.2
Noon.	8.8	9.7	59.6	.0171	19.2	9.3	10.7	36.6	.0101	28.3	14.7	15.3	64.7	.0140	22.7
1h	8.4	8.8	82.1	.0240	12.3	12.5	13.6	42.2	.0101	28.6	13.9	14.6	60.8	.0136	23.4
2	8.4	8.9	78.0	.0228	13.4	14.8	15.7	46.9	.0101	28.4	12.7	13.4	62.6	.0148	21.7
3	6.7	7.3	74.7	.0239	12.4	15.7	16.5	51.0	.0105	27.8	9.7	10.5	62.0	.0173	19.0
4	4.1	4.5	82.4	.0300	9.8	17.9	18.7	45.9	.0086	31.1	2.3	2.7	86.3	.0336	5.4
5	1.5	1.7	93.5	.0378	2.9	19.1	20.0	36.0	.0062	35.7	2.5	3.1	78.9	.0306	7.4
6	— 2.5	2.7	93.2	.0359	4.1	19.0	19.7	49.9	.0086	31.1	3.3	4.1	70.9	.0265	10.3
7	± 0.0	0.2	93.8	.0406	1.4	19.3	20.0	49.0	.0084	31.4	5.5	6.3	67.7	.0232	13.1
8	— 1.6	1.9	90.0	.0363	3.8	21.2	21.9	45.2	.0068	34.5	13.3	14.1	55.8	.0129	24.3
9	1.7	2.2	83.0	.0355	5.5	21.5	22.3	35.8	.0055	37.3	17.3	17.9	61.1	.0114	26.5
10	1.0	1.5	83.5	.0348	4.7	22.0	22.7	42.2	.0061	35.9	23.3	23.5	82.5	.0112	26.8
11	— 3.7	— 4.5	70.5	0.0259	—10.8	—22.5	—23.3	31.8	0.0047	—38.9	—25.5	—25.9	60.2	0.0073	—33.4
Means.			76.91	0.0243	—13.13			50.77	0.0113	—27.68			56.80	0.0131	—25.81

Date.	FEBRUARY, 1873.														
	8.					9.					10.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	—26.3	—26.8	49.6	0.0056	—37.0	— 9.3	— 9.7	81.3	0.0228	—13.4	—23.3	—23.8	56.4	0.0076	—32.7
1	27.7	28.4	21.0	.0023	44.9	9.4	9.8	81.2	.0226	13.5	25.5	26.0	52.0	.0061	35.8
2	29.5	29.9	50.3	.0048	38.5	9.6	10.0	81.0	.0224	13.7	25.2	25.7	52.6	.0064	35.5
3	31.4	31.7	58.9	.0050	38.3	10.4	10.9	76.1	.0201	16.9	25.9	26.5	40.5	.0047	39.0
4	29.0	29.6	26.4	.0027	44.0	11.0	11.5	75.5	.0194	16.5	25.4	25.8	60.4	.0074	33.3
5	29.5	29.9	50.3	.0048	38.5	11.4	11.9	75.1	.0189	17.0	24.8	25.3	53.4	.0067	34.9
6	29.4	29.8	50.6	.0049	38.4	12.9	13.6	62.4	.0146	22.0	22.7	23.3	49.1	.0068	34.4
7	27.7	28.2	45.2	.0047	39.0	11.8	12.6	58.8	.0146	22.0	17.1	17.8	73.4	.0138	23.1
8	26.0	26.6	40.2	.0046	39.1	11.5	12.5	48.5	.0124	24.9	20.5	20.8	77.2	.0121	25.3
9	25.6	26.2	41.4	.0048	38.5	14.3	14.8	72.2	.0157	20.7	23.7	24.6	18.8	.0026	45.2
10	25.7	26.5	19.0	.0025	44.8	13.6	14.5	50.0	.0114	26.5	14.9	15.9	40.2	.0088	30.8
11	27.3	27.7	56.6	.0062	35.8	17.1	17.6	67.8	.0128	24.4	15.5	16.2	57.6	.0119	25.7
Noon.	25.9	26.7	18.2	.0023	45.2	19.9	20.5	55.0	.0090	30.5	21.3	21.6	76.4	.0116	26.4
1h	25.8	26.6	18.6	.0024	45.0	22.9	23.5	48.5	.0067	34.7	26.3	26.7	58.6	.0068	34.6
2	23.5	24.2	37.6	.0051	38.0	23.6	24.2	46.6	.0062	35.8	24.5	24.9	62.2	.0080	32.2
3	20.7	21.6	30.0	.0048	38.4	25.7	26.2	51.4	.0060	36.1	25.4	25.9	52.2	.0062	35.7
4	17.9	18.7	45.9	.0084	31.5	23.7	24.3	46.4	.0062	35.9	23.3	23.9	47.3	.0064	35.3
5	15.3	16.5	29.0	.0059	36.1	22.7	23.5	31.0	.0046	39.3	23.3	23.7	64.6	.0089	30.9
6	4.5	5.5	62.5	.0221	14.1	22.5	23.2	40.4	.0058	36.5	23.7	24.5	28.0	.0039	41.0
7	4.9	5.2	88.8	.0305	7.4	23.8	24.5	37.0	.0050	38.4	24.7	25.4	34.0	.0043	39.8
8	5.5	6.0	80.0	.0270	10.0	29.0	29.6	26.4	.0027	44.0	22.7	23.5	31.0	.0046	39.3
9	7.3	7.9	74.1	.0230	13.3	30.6	31.2	27.3	.0028	43.7	22.5	23.3	31.8	.0047	38.9
10	8.1	8.7	73.3	.0218	14.2	28.7	29.3	28.2	.0029	43.5	23.7	24.5	28.0	.0039	41.0
11	— 8.3	— 8.9	73.1	0.0216	—14.5	—26.9	—27.5	37.0	0.0041	—40.6	—20.0	—20.7	47.6	0.0077	—30.3
Means.			47.56	0.0095	—32.69			57.29	0.0112	—28.77			49.72	0.0072	—31.21

Date.	FEBRUARY, 1873.														
	11.					12.					13.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	—22.5	—23.5	48.7	0.0088	—29.7	—31.8	—32.7	57.3	0.0041	—40.5	—34.5	—34.9	30.5	0.0021	—45.6
1	16.3	17.1	49.8	.0100	28.8	32.5	33.4	57.3	.0041	40.5	34.1	34.6	26.2	.0019	46.0
2	15.8	16.4	63.2	.0128	24.4	35.4	35.5	81.5	.0052	37.8	33.1	33.6	22.0	.0018	46.4
3	15.3	16.1	51.8	.0109	27.2	31.9	32.7	75.8	.0065	37.5	33.7	34.4	21.0	.0017	46.5
4	8.6	9.5	60.0	.0173	18.9	30.6	31.4	75.8	.0065	37.5	33.3	33.8	21.0	.0017	46.7
5	9.6	10.3	66.7	.0186	17.5	31.1	31.7	75.8	.0065	37.5	33.1	33.7	28.6	.0021	41.9
6	11.7	12.3	69.4	.0172	19.0	32.5	32.5	100.0	.0078	32.5	33.3	33.7	36.2	.0026	43.1
7	12.7	13.5	57.0	.0135	23.4	33.1	33.1	100.0	.0074	33.1	32.5	33.0	25.0	.0021	45.5
8	9.7	10.6	57.8	.0160	20.4	32.7	32.9	70.2	.0054	37.3	34.1	34.5	32.5	.0023	45.2
9	8.9	9.7	63.3	.0183	17.8	32.8	33.1	54.6	.0042	40.2	34.8	35.6	39.1	.0026	44.2
10	8.9	9.7	63.3	.0183	17.8	32.9	33.0	85.0	.0064	35.1	35.0	35.6	39.1	.0026	44.2
11	9.3	9.8	77.2	.0215	14.4	31.7	31.8	86.2	.0071	33.8	36.3	36.8	39.1	.0026	44.2
Noon.	9.5	10.2	66.8	.0187	17.3	30.8	31.5	93.1	.0087	34.5	35.3	35.6	45.6	.0029	43.3
1h	10.9	11.5	70.5	.0183	17.9	29.2	30.1	93.1	.0087	34.5	35.3	35.7	25.8	.0017	46.8
2	17.2	17.6	73.8	.0140	22.9	28.5	28.5	100.0	.0102	28.5	34.3	34.6	49.2	.0034	42.1
3	18.5	18.9	72.1	.0127	24.6	27.2	27.6	57.6	.0064	35.3	34.1	34.6	37.1	.0027	43.8
4	20.5	21.0	62.0	.0098	29.0	21.3	24.5	81.5	.0105	27.9	34.5	35.1	37.1	.0027	43.8
5	23.9	24.7	27.6	.0037	41.4	24.4	24.5	57.7	.0068	35.3	35.3	35.9	37.1	.0027	43.8
6	27.3	27.5	78.5	.0086	31.3	30.5	31.0	34.0	.0031	42.8	35.3	35.8	37.1	.0027	43.8
7	30.3	30.5	74.5	.0068	34.5	32.2	32.3	85.7	.0069	34.3	35.3	35.8	37.1	.0027	43.8
8	30.6	31.1	33.6	.0031	43.0	35.5	35.7	62.9	.0040	40.6	34.2	34.7	37.1	.0027	43.8
9	30.5	31.0	34.0	.0031	42.8	34.0	34.3	50.1	.0036	41.8	32.5	33.0	25.0	.0021	45.5
10	30.7	31.2	33.2	.0030	43.2	32.3	32.5	71.0	.0056	36.9	31.5	32.2	32.6	.0027	44.0
11	—34.3	—34.8	57.3	0.0041	—40.5	—32.1	—32.2	85.8	0.0069	—34.2	—32.3	—32.7	40.2	0.0033	—42.5
Means.			58.84	0.0120	—26.99			70.92	0.0063	—36.25			33.39	0.0024	—44.56

Date.	FEBRUARY, 1873.														
	14.					15.					16.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	—31.8	—32.3	28.5	0.0025	—44.7	—33.3	—33.8	21.0	0.0017	—46.7	—33.6	—34.1	55.7	0.0043	—40.0
1	33.3	33.7	36.2	.0026	43.1	32.4	32.8	39.8	.0032	42.6	32.5	32.9	29.4	.0032	42.8
2	32.6	33.1	21.5	.0020	45.6	33.9	34.6	53.9	.0040	40.5	33.2	33.7	21.5	.0017	46.6
3	30.7	31.3	29.8	.0026	44.1	33.8	34.5	53.9	.0040	40.5	32.5	33.0	25.0	.0021	45.5
4	30.2	30.7	35.2	.0033	42.5	33.8	34.6	53.9	.0040	40.5	32.8	33.4	30.6	.0023	44.3
5	31.5	31.8	58.6	.0049	38.4	33.3	33.9	53.9	.0040	40.5	33.3	33.7	36.2	.0026	43.1
6	31.8	32.3	28.5	.0025	44.7	36.5	37.0	53.9	.0040	40.5	31.4	31.9	30.4	.0027	43.9
7	32.0	32.5	28.5	.0025	44.7	35.8	36.3	53.9	.0040	40.5	30.5	31.0	34.0	.0031	42.8
8	31.3	31.8	30.8	.0027	43.8	33.8	34.0	68.0	.0048	38.5	32.0	32.6	32.6	.0029	43.2
9	30.7	31.2	33.2	.0030	43.2	35.4	35.9	51.5	.0033	42.3	31.2	31.7	31.2	.0028	43.7
10	30.3	30.9	20.4	.0019	45.9	35.7	36.4	51.5	.0033	42.3	29.5	29.9	50.3	.0048	38.5
11	31.4	31.9	30.4	.0027	43.9	36.5	36.9	51.5	.0033	42.3	29.5	29.9	50.3	.0048	38.5
Noon.	32.2	32.6	40.6	.0033	42.3	37.5	37.8	35.0	.0018	46.1	28.5	29.0	42.0	.0042	40.0
1h	32.6	32.9	55.3	.0043	39.9	37.5	37.9	29.8	.0017	46.6	29.5	29.9	50.3	.0048	38.5
2	34.8	35.3	49.7	.0041	40.4	35.5	35.9	24.6	.0016	47.1	29.5	29.9	50.3	.0048	38.5
3	31.3	31.7	44.2	.0039	41.0	34.9	35.0	82.0	.0054	37.2	30.1	30.6	35.6	.0033	42.4
4	32.0	32.5	27.5	.0024	45.0	34.3	34.8	55.7	.0043	40.0	30.3	30.8	34.8	.0032	42.6
5	30.7	31.2	33.2	.0030	43.2	35.7	36.1	55.7	.0043	40.0	29.5	30.1	23.6	.0024	44.7
6	34.9	35.3	28.2	.0019	46.2	33.8	34.5	55.7	.0043	40.0	29.5	29.9	50.3	.0048	38.5
7	33.2	33.6	36.6	.0027	43.1	33.8	34.5	55.7	.0043	40.0	30.2	30.7	35.2	.0033	42.5
8	33.8	34.5	28.8	.0022	44.9	34.7	35.2	55.7	.0043	40.0	29.3	29.8	38.8	.0038	41.1
9	31.7	32.5	28.8	.0022	44.9	34.9	35.5	55.7	.0043	40.0	29.6	30.2	23.2	.0023	44.9
10	33.6	34.5	28.8	.0022	44.9	34.5	35.0	55.7	.0043	40.0	29.5	30.2	34.5	.0032	42.7
11	—34.3	—34.8	28.8	0.0022	—44.9	—33.7	—34.4	55.7	0.0043	—40.0	—31.5	—32.4	34.5	0.0032	—42.7
Means.			33.96	0.0028	—43.58			50.99	0.0037	—41.45			36.68	0.0034	—42.17

Date.	FEBRUARY, 1873.														
	17.					18.					19.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	*Inches.*	°	°	°	p. c.	*Inches.*	°	°	°	p. c.	*Inches.*	°
0h	—31.2	—31.8	34.5	0.0032	—42.7	—32.4	—32.8	39.8	0.0032	—42.6	—33.1	—33.7	26.2	0.0019	—46.0
1	30.9	31.3	45.8	.0041	40.6	32.2	32.6	40.6	.0033	42.3	34.3	34.8	26.2	.0019	46.0
2	30.2	30.7	35.2	.0033	42.5	32.3	32.7	40.2	.0033	42.5	33.7	34.3	26.2	.0019	46.0
3	31.3	31.8	30.8	.0027	43.8	31.7	32.2	29.0	.0025	44.5	33.3	33.8	21.0	.0017	46.7
4	31.1	31.7	31.0	.0027	43.7	30.9	31.6	29.7	.0026	44.2	34.3	34.7	31.5	.0022	45.4
5	31.2	31.7	31.2	.0028	43.7	31.4	31.9	30.4	.0027	43.9	34.6	35.0	30.0	.0020	45.7
6	30.5	30.9	47.3	.0043	39.8	33.3	33.7	36.2	.0026	43.1	33.4	33.8	35.8	.0026	43.2
7	29.5	29.9	50.3	.0048	38.5	32.6	33.1	24.5	.0020	45.6	31.6	32.1	29.5	.0026	44.3
8	31.4	31.7	58.9	.0050	38.3	32.7	33.4	40.1	.0031	42.7	31.5	32.0	30.0	.0026	44.1
9	32.0	32.5	27.5	.0024	45.0	32.5	32.8	55.6	.0043	39.8	31.5	32.0	30.0	.0026	44.1
10	30.6	31.3	37.4	.0033	42.4	31.1	31.7	49.1	.0039	40.7	30.5	31.0	34.0	.0031	42.8
11	30.5	30.9	47.3	.0043	39.8	31.7	32.1	42.6	.0036	41.6	30.6	31.3	29.0	.0025	44.3
Noon.	31.6	32.3	40.9	.0034	42.3	33.5	33.9	35.4	.0025	43.2	30.9	31.6	29.0	.0025	44.3
1h	33.7	34.1	34.5	.0025	44.8	34.3	34.7	31.5	.0022	45.4	30.5	31.2	29.0	.0025	44.3
2	33.5	34.0	20.0	.0016	47.0	34.4	34.7	48.9	.0034	42.2	29.8	30.5	29.0	.0025	44.3
3	34.5	34.8	48.6	.0033	42.3	35.5	35.8	44.8	.0028	43.5	29.5	30.2	29.0	.0025	41.3
4	35.4	35.7	45.2	.0029	43.4	35.5	35.9	24.6	.0016	47.1	34.5	35.1	29.0	.0025	44.3
5	33.5	34.1	38.1	.0025	44.4	35.5	35.9	24.6	.0016	47.1	33.6	34.2	29.0	.0025	44.3
6	34.4	34.8	31.0	.0021	45.5	35.3	35.7	25.8	.0017	46.8	33.7	34.5	29.0	.0025	44.3
7	36.3	36.5	60.0	.0036	41.5	34.0	34.6	28.7	.0020	46.1	34.1	34.6	29.0	.0025	44.3
8	36.5	36.7	59.2	.0035	41.7	34.1	34.6	28.7	.0020	46.1	32.9	33.6	29.0	.0025	44.3
9	34.7	35.1	29.4	.0020	45.9	32.7	33.3	28.7	.0020	46.1	31.5	32.2	29.0	.0025	44.3
10	33.9	34.5	30.7	.0021	45.6	33.3	33.9	28.7	.0020	46.1	32.7	33.2	24.0	.0020	45.8
11	—34.2	—34.6	32.0	0.0022	—45.3	—34.3	—34.7	31.5	0.0022	—45.4	—30.8	—31.5	26.7	0.0023	—45.1
Means.			39.45	0.0031	—42.52			34.99	0.0026	—41.11			28.75	0.0024	—44.69

Date.	FEBRUARY, 1873.														
	20.					21.					22.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	*Inches.*	°	°	°	p. c.	*Inches.*	°	°	°	p. c.	*Inches.*	°
0h	—31.6	—32.1	29.5	0.0026	—44.3	—37.8	—38.5	27.8	0.0019	—46.5	—35.5	—35.8	44.8	0.0028	—43.5
1	34.4	34.8	31.0	.0021	45.5	38.5	38.9	29.1	.0020	46.5	34.6	35.0	30.0	.0020	45.7
2	34.5	34.8	48.6	.0033	42.3	37.5	37.9	29.1	.0020	46.5	32.9	33.4	23.0	.0019	46.1
3	35.3	35.7	25.8	.0017	46.8	37.4	37.8	29.1	.0020	46.5	32.6	33.0	39.0	.0030	42.9
4	34.3	34.7	31.5	.0022	45.4	37.6	38.0	29.1	.0020	46.5	31.4	31.8	43.8	.0038	41.1
5	34.2	34.7	28.6	.0019	46.1	37.3	37.7	29.1	.0020	46.5	30.7	31.2	33.2	.0030	43.2
6	34.4	34.9	28.6	.0019	46.1	37.6	38.0	29.1	.0020	46.5	30.5	31.0	34.0	.0031	42.8
7	35.3	35.7	25.8	.0017	46.8	35.9	36.7	29.1	.0020	46.5	29.7	30.1	49.7	.0047	38.9
8	35.4	35.8	25.2	.0016	46.9	33.9	34.7	29.1	.0020	46.5	29.1	29.7	25.8	.0027	44.1
9	36.8	37.5	27.8	.0018	47.1	34.5	34.9	30.5	.0021	45.6	27.8	28.3	44.8	.0047	39.1
10	38.4	38.7	27.8	.0018	47.4	35.9	36.3	41.3	.0030	43.2	26.7	27.4	26.0	.0029	43.4
11	38.5	38.9	27.8	.0018	46.5	36.4	36.8	41.3	.0030	43.2	27.3	27.9	35.4	.0037	41.3
Noon.	39.5	39.8	27.8	.0018	46.5	36.6	37.0	41.3	.0030	43.2	26.8	27.5	25.5	.0029	43.5
1h	40.4	40.7	27.8	.0018	46.5	33.4	33.7	52.2	.0039	40.8	26.5	26.9	58.2	.0066	34.8
2	40.8	41.2	27.8	.0018	46.5	35.4	35.8	25.2	.0016	46.9	25.9	26.6	29.2	.0035	42.0
3	41.4	41.7	27.8	.0018	46.5	35.4	35.7	45.2	.0029	43.4	24.8	25.4	43.8	.0054	37.2
4	40.3	40.6	27.8	.0018	46.5	36.5	36.9	50.2	.0029	43.2	26.9	27.5	37.0	.0041	40.6
5	41.3	41.7	27.8	.0018	46.5	37.7	37.9	55.3	.0030	43.1	26.8	27.4	37.4	.0041	40.4
6	42.4	42.8	27.8	.0018	46.5	37.3	37.7	50.1	.0029	45.2	25.8	26.5	29.5	.0035	41.8
7	41.9	42.3	27.8	.0018	46.5	38.6	39.1	50.1	.0029	45.2	25.2	25.7	52.6	.0064	35.5
8	40.7	41.2	27.8	.0018	46.5	39.4	39.7	50.1	.0029	45.2	24.1	24.7	45.6	.0059	36.3
9	40.5	41.0	27.8	.0018	46.5	38.6	39.2	50.1	.0029	45.2	22.3	22.8	33.8	.0050	38.3
10	40.0	40.5	27.8	.0018	46.5	38.3	38.6	50.1	.0029	47.3	20.0	20.7	47.6	.0077	30.3
11	—38.0	—38.7	27.8	0.0018	—46.5	—36.8	—37.5	50.1	0.0029	—45.4	—19.3	—19.8	63.6	0.0107	—27.5
Means.			28.82	0.0019	—45.80			39.32	0.0025	—45.19			38.84	0.0043	—40.01

Date.	FEBRUARY, 1873.														
	23.					24.					25.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°
0^h	−16.6	−17.6	37.2	0.0071	−33.6	− 5.0	− 5.8	68.4	0.0239	−12.5	−25.5	−26.0	52.0	0.0061	−35.8
1	15.5	16.2	57.6	.0119	25.7	4.8	5.6	68.8	.0242	12.2	26.1	26.6	50.2	.0058	36.7
2	15.5	16.0	70.0	.0144	22.2	4.3	4.8	81.2	.0289	8.6	26.9	27.6	25.0	.0028	43.7
3	16.4	17.0	62.0	.0122	25.3	3.4	3.8	85.6	.0316	6.7	28.3	28.7	53.9	.0056	37.0
4	15.7	16.4	57.2	.0117	26.0	5.4	5.9	80.1	.0272	9.9	28.3	28.7	53.9	.0056	37.0
5	14.7	15.5	53.0	.0115	26.4	8.7	9.2	77.8	.0223	13.7	27.4	27.8	56.4	.0061	35.9
6	13.8	14.7	49.6	.0112	26.8	8.9	9.6	67.4	.0196	16.7	24.8	25.5	33.5	.0043	40.0
7	11.6	12.6	48.2	.0122	25.0	7.8	8.6	64.8	.0198	16.3	28.7	29.4	37.1	.0045	39.6
8	12.0	12.7	63.6	.0156	20.8	8.7	9.3	72.7	.0211	14.9	27.8	28.3	44.8	.0047	39.1
9	12.6	12.8	89.4	.0211	14.8	8.8	9.6	63.4	.0184	17.6	26.5	26.8	69.2	.0078	32.5
10	12.5	13.1	67.9	.0163	20.1	7.9	8.6	68.8	.0209	15.1	26.5	26.9	58.2	.0066	34.8
11	12.3	12.9	68.2	.0165	19.8	9.5	10.1	71.9	.0201	15.9	27.1	27.6	47.2	.0051	38.1
Noon.	10.7	11.4	65.6	.0172	19.0	18.6	18.9	79.1	.0138	23.0	28.1	28.6	43.6	.0045	39.4
1^h	13.8	14.7	49.6	.0112	26.8	20.5	20.8	77.2	.0121	25.3	28.7	29.0	65.0	.0064	35.2
2	15.7	16.2	69.8	.0142	22.5	22.4	22.6	83.4	.0118	25.8	27.1	27.6	47.2	.0051	38.1
3	16.4	16.9	69.1	.0135	23.5	23.5	23.8	73.2	.0099	28.9	26.8	27.2	57.6	.0064	35.3
4	18.5	18.9	72.1	.0127	24.6	25.5	26.2	30.4	.0037	41.2	26.3	26.7	58.6	.0068	34.6
5	18.3	18.8	66.2	.0117	26.1	26.0	26.6	40.2	.0046	39.1	28.9	29.5	27.0	.0028	43.8
6	17.0	17.6	61.4	.0117	26.2	25.7	26.1	59.8	.0072	33.8	29.0	29.7	40.4	.0042	40.4
7	18.3	18.7	72.3	.0129	24.3	28.0	28.3	66.4	.0069	34.4	28.3	28.7	53.9	.0056	37.0
8	16.4	17.0	62.0	.0122	25.3	28.5	28.8	65.4	.0066	34.9	29.3	29.7	50.9	.0050	38.3
9	16.5	17.1	61.9	.0121	25.5	28.9	29.5	27.0	.0028	43.8	25.7	25.9	80.1	.0095	29.5
10	17.6	18.2	60.6	.0111	26.9	29.3	29.7	50.9	.0050	38.3	26.3	26.7	58.6	.0068	34.6
11	−16.2	−16.7	69.3	0.0137	−23.3	−26.6	−27.1	48.7	0.0054	−37.3	−27.3	−27.7	56.6	0.0062	−35.8
Means.			62.66	0.0132	−24.19			65.52	0.0153	−23.62			50.74	0.0056	−37.09

Date.	FEBRUARY, 1873.														
	26.					27.					28.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°
0^h	−28.1	−28.5	54.5	0.0057	−36.8	−28.6	−29.4	46.2	0.0046	−39.2	−34.6	−34.8	65.6	0.0044	−39.4
1	28.1	28.5	54.5	.0057	36.8	28.6	29.1	41.6	.0042	40.2	34.8	35.0	65.0	.0043	39.7
2	29.3	29.6	63.8	.0061	35.9	28.3	28.8	42.8	.0044	39.6	34.7	35.0	48.0	.0032	42.5
3	27.4	27.8	56.4	.0061	35.9	29.1	29.5	51.5	.0051	38.1	34.6	34.9	48.3	.0033	42.4
4	29.0	29.6	26.4	.0027	44.0	29.2	29.3	87.7	.0086	31.3	33.7	34.1	34.5	.0025	44.5
5	28.7	29.3	28.2	.0029	43.5	28.6	29.2	28.8	.0029	43.3	32.7	32.9	70.2	.0054	37.3
6	28.8	29.3	40.8	.0041	40.6	28.5	28.8	65.4	.0066	34.9	32.1	32.5	41.0	.0034	42.2
7	28.4	28.7	65.6	.0067	34.8	28.6	28.9	65.2	.0065	35.0	34.2	34.6	66.2	.0045	39.2
8	27.8	28.5	20.5	.0023	45.1	27.9	28.6	20.0	.0022	45.3	32.5	32.8	55.6	.0043	39.8
9	27.5	27.9	56.2	.0060	36.0	27.3	27.7	56.6	.0062	35.8	32.5	32.7	70.6	.0055	37.1
10	29.1	29.6	39.6	.0039	40.9	26.6	27.2	38.2	.0042	40.1	29.8	30.4	22.4	.0022	45.2
11	29.5	29.8	63.4	.0060	36.1	28.5	28.8	65.4	.0066	34.9	25.8	26.6	18.6	.0024	45.0
Noon.	29.5	29.9	50.3	.0048	38.5	29.3	29.6	63.8	.0061	35.9	20.0	20.5	62.5	.0102	28.4
1^h	29.5	30.0	38.0	.0036	41.4	29.1	29.5	51.5	.0051	38.1	15.8	16.7	53.0	.0091	30.4
2	28.6	29.3	50.7	.0048	38.7	30.2	30.6	50.0	.0047	38.7	13.5	14.5	43.5	.0102	28.3
3	29.5	29.8	63.4	.0060	36.1	28.7	29.4	36.2	.0036	41.5	13.2	13.8	67.2	.0155	21.0
4	30.5	31.0	34.0	.0031	42.8	27.4	28.1	22.5	.0025	44.4	13.8	14.5	61.0	.0137	23.3
5	29.9	30.5	22.0	.0021	45.3	27.6	28.3	21.5	.0024	44.7	14.3	14.8	72.2	.0157	20.7
6	29.3	29.7	50.9	.0050	38.3	29.7	30.2	37.2	.0035	41.8	14.8	15.5	59.0	.0126	24.7
7	29.3	29.7	50.9	.0050	38.3	31.6	32.1	29.5	.0026	44.3	15.5	16.2	57.6	.0119	25.7
8	29.5	30.0	38.0	.0036	41.4	32.7	33.3	25.0	.0021	45.5	15.4	16.1	57.8	.0120	25.6
9	29.5	30.3	44.4	.0043	39.8	32.2	32.9	25.0	.0021	45.5	15.6	16.2	63.6	.0130	24.1
10	28.7	29.5	44.4	.0043	39.8	33.4	33.9	20.5	.0016	46.8	16.4	16.8	75.2	.0147	21.8
11	−29.3	−29.7	50.9	0.0050	−38.3	−34.3	−34.6	49.2	0.0034	−42.1	−16.3	−16.9	62.2	0.0123	−25.1
			49.49	0.0046	−39.38			43.39	0.0042	−40.29			55.57	0.0082	−33.06

MARCH, 1873.

Date.	1.					2.					3.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	*Inches.*	°	°	°	p. c.	*Inches.*	°	°	°	p. c.	*Inches.*	°
0^h	—16.3	—16.8	69.2	0.0136	—23.4	—26.6	—27.0	58.0	0.0065	—35.0	—38.4	—38.7	36.8	0.0019	—47.4
1	16.4	17.0	62.0	.0122	25.3	28.6	29.0	53.0	.0053	37.4	39.6	39.9	36.8	.0019	45.8
2	16.0	16.7	56.6	.0114	26.5	28.1	28.6	43.6	.0045	39.4	40.4	40.7	36.8	.0019	45.8
3	16.2	16.9	56.2	.0112	26.8	29.1	29.6	39.6	.0039	40.9	39.7	40.0	36.8	.0019	45.8
4	16.8	17.3	68.4	.0131	24.0	29.4	29.8	50.6	.0049	38.4	38.9	39.1	49.6	.0024	44.2
5	17.3	17.7	73.6	.0139	23.0	31.6	31.9	58.3	.0048	38.5	39.1	39.7	40.1	.0022	44.9
6	17.1	17.7	61.3	.0116	26.3	33.8	34.5	44.1	.0034	42.1	39.5	39.8	40.1	.0022	44.9
7	17.5	18.0	67.0	.0125	24.9	33.7	34.3	44.1	.0034	42.1	38.9	39.6	40.1	.0022	44.9
8	17.5	18.3	47.1	.0088	30.8	34.6	35.0	30.0	.0023	45.7	36.5	36.9	30.5	.0021	45.6
9	17.5	18.4	46.9	.0087	30.8	35.4	35.7	45.2	.0029	43.4	34.7	35.2	30.5	.0021	45.6
10	17.6	18.4	46.8	.0087	30.9	34.7	35.2	29.0	.0025	44.5	34.8	35.3	30.5	.0021	45.6
11	17.6	18.5	49.8	.0091	30.2	32.8	33.5	43.8	.0037	41.4	34.5	34.9	30.5	.0021	45.6
Noon.	18.0	18.7	52.9	.0095	29.5	31.8	32.5	43.8	.0037	41.4	34.3	34.7	31.5	.0022	45.4
1^h	18.2	18.9	52.3	.0093	29.9	31.5	31.8	58.6	.0049	38.4	33.3	33.7	36.2	.0026	43.1
2	18.3	18.8	66.2	.0117	26.1	29.8	30.6	64.4	.0051	37.8	33.6	34.0	35.0	.0025	44.3
3	18.3	18.8	66.2	.0117	26.1	28.6	29.4	64.4	.0051	37.8	34.7	35.0	48.0	.0032	42.5
4	18.4	19.0	59.0	.0103	28.1	32.7	32.9	70.2	.0054	37.3	36.3	36.7	37.0	.0027	43.9
5	18.3	19.0	52.0	.0092	30.0	33.2	33.5	53.0	.0040	40.6	36.5	36.9	37.0	.0027	43.9
6	18.7	19.5	62.5	.0095	29.5	35.6	36.0	24.0	.0015	47.2	34.8	35.3	37.0	.0027	43.9
7	19.3	19.8	62.5	.0095	29.5	35.5	36.0	36.8	.0019	47.3	32.5	33.0	37.0	.0027	43.9
8	21.2	21.5	62.5	.0095	29.5	35.4	35.9	36.8	.0019	47.3	33.8	34.5	37.0	.0027	43.9
9	23.6	23.9	73.1	.0098	29.0	36.3	36.7	36.8	.0019	47.3	34.1	34.6	37.0	.0027	43.9
10	24.0	24.6	45.8	.0060	36.2	37.3	37.7	36.8	.0019	47.3	33.4	34.2	37.0	.0027	43.9
11	—24.4	—24.9	46.3	0.0049	—38.5	—38.2	—38.6	36.8	0.0019	—47.3	—32.3	—32.8	26.0	0.0022	—45.3
Means.			58.58	0.0102	—28.53			45.90	0.0036	—41.91			36.45	0.0024	—44.75

MARCH, 1873.

Date.	4.					5.					6.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	*Inches.*	°	°	°	p. c.	*Inches.*	°	°	°	p. c.	*Inches.*	°
0^h	—33.8	—34.4	35.2	0.0025	—44.4	—34.7	—35.4	30.7	0.0021	—45.5	—39.1	—39.5	52.0	0.0060	—36.6
1	35.6	35.9	44.4	.0028	43.6	34.6	35.0	30.0	.0020	45.7	39.5	39.8	52.0	.0060	36.6
2	35.3	35.7	25.8	.0017	46.8	35.6	36.1	32.7	.0019	45.8	38.4	38.8	52.0	.0060	36.6
3	33.7	34.4	34.2	.0026	44.2	37.4	37.7	35.5	.0019	46.0	39.1	39.7	52.0	.0060	36.6
4	31.7	32.1	42.6	.0036	41.6	37.7	38.3	41.7	.0025	46.2	24.5	25.6	52.5	.0060	36.6
5	33.2	33.6	36.6	.0027	43.1	39.0	39.5	41.7	.0025	46.2	22.9	23.3	65.4	.0091	30.3
6	33.6	34.0	35.0	.0025	44.3	39.4	39.8	41.7	.0025	46.2	25.8	26.4	40.8	.0047	38.8
7	33.4	33.8	35.8	.0026	43.2	39.5	40.0	41.7	.0025	46.2	26.6	27.2	38.2	.0042	40.1
8	33.4	33.8	35.8	.0026	43.2	40.6	41.0	41.7	.0025	46.2	26.5	27.0	49.0	.0054	37.2
9	33.2	33.6	36.6	.0027	43.1	41.0	41.4	41.7	.0025	46.2	25.2	25.7	52.6	.0064	35.5
10	31.3	31.7	44.2	.0039	41.0	40.5	41.0	41.7	.0025	46.2	23.5	23.9	64.2	.0087	31.1
11	28.9	29.4	40.4	.0040	40.7	39.8	40.4	41.7	.0025	46.2	21.7	22.5	35.0	.0053	37.7
Noon.	28.4	28.8	53.6	.0055	37.1	37.8	38.1	41.7	.0025	46.5	23.8	24.4	46.2	.0061	36.0
1^h	27.3	27.7	56.6	.0062	35.8	34.7	35.0	48.0	.0032	42.5	28.8	29.3	40.8	.0041	40.6
2	26.8	27.5	25.5	.0029	43.5	33.6	33.8	68.4	.0049	38.3	30.4	30.8	35.4	.0030	43.1
3	26.7	27.5	29.5	.0032	42.7	34.4	34.7	48.9	.0034	42.2	34.6	35.0	30.0	.0020	45.7
4	27.7	28.3	33.5	.0035	41.9	33.0	33.5	22.5	.0018	46.3	37.5	37.9	34.0	.0028	43.5
5	30.0	30.5	36.0	.0034	42.3	32.7	33.1	38.6	.0029	42.9	37.8	38.5	34.0	.0028	43.5
6	29.5	30.1	23.6	.0024	44.7	33.6	34.2	52.0	.0060	36.6	36.9	37.6	34.0	.0028	43.5
7	31.3	32.0	22.5	.0020	45.6	36.3	36.7	52.0	.0060	36.6	37.7	38.2	34.0	.0028	43.5
8	32.4	33.0	22.5	.0020	45.6	37.0	37.4	52.0	.0060	36.6	36.3	36.8	34.0	.0028	43.5
9	33.2	33.7	21.5	.0017	46.6	37.3	37.7	52.0	.0060	36.6	29.5	30.0	38.0	.0036	41.4
10	34.3	34.7	31.5	.0022	45.4	36.5	37.0	52.0	.0060	36.6	28.3	28.9	30.5	.0031	42.8
11	—33.4	—34.2	30.7	0.0021	—45.5	—37.4	—37.9	52.0	0.0060	—36.6	—27.3	—27.5	48.4	0.0053	—37.5
Means.			34.82	0.0030	—43.16			43.42	0.0034	—42.95			43.56	0.0048	—39.10

Date.	MARCH, 1873.														
	7.					8.					9.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches	°
0h	—26.0	—26.7	28.9	0.0034	—42.2	—31.0	—31.6	27.4	0.0025	—44.2	—27.5	—28.0	46.0	0.0048	—38.6
1	25.1	25.7	42.9	.0052	37.7	29.4	30.0	24.0	.0024	44.6	21.5	22.4	26.4	.0043	40.0
2	26.9	27.5	37.0	.0041	40.6	28.7	29.5	26.2	.0032	42.6	20.8	21.4	53.2	.0084	31.9
3	26.7	27.5	45.1	.0047	38.9	23.5	24.3	28.4	.0040	40.6	22.0	22.7	42.2	.0061	35.9
4	28.5	28.9	53.3	.0054	37.2	24.8	25.6	23.4	.0031	43.1	19.6	20.2	55.6	.0093	29.9
5	25.6	26.3	30.1	.0036	41.4	25.0	25.7	32.5	.0041	40.4	14.4	14.7	84.0	.0180	18.0
6	27.5	27.8	67.4	.0072	33.7	27.1	27.7	36.2	.0039	40.9	15.5	16.1	63.8	.0131	24.0
7	28.0	28.6	32.0	.0033	42.3	27.5	28.1	34.5	.0036	41.6	18.5	19.1	58.7	.0103	28.3
8	27.4	27.9	46.3	.0049	38.5	20.5	21.4	31.0	.0050	38.0	13.8	14.6	54.8	.0124	25.0
9	26.6	27.1	48.7	.0054	37.3	18.9	19.7	43.6	.0075	33.1	11.6	12.5	54.0	.0136	23.3
10	26.8	27.5	25.5	.0029	43.5	17.3	18.0	55.0	.0102	28.4	10.5	11.4	56.2	.0149	21.6
11	26.5	27.0	49.0	.0054	37.2	15.2	15.9	58.6	.0124	25.0	11.2	11.8	70.2	.0179	18.3
Noon.	24.2	24.7	54.6	.0070	34.0	14.5	15.0	72.0	.0155	20.9	11.5	12.0	75.0	.0188	17.2
1h	22.3	22.9	50.2	.0070	33.9	17.5	18.0	67.0	.0125	24.9	16.8	17.4	61.6	.0119	25.9
2	22.5	23.1	46.8	.0063	35.6	19.3	19.7	71.3	.0120	25.5	11.5	12.0	75.0	.0188	17.2
3	22.6	23.4	28.2	.0039	40.8	20.1	20.7	54.6	·0088	30.9	16.8	17.4	61.6	.0119	25.9
4	24.0	24.6	45.8	.0050	36.2	15.5	16.5	53.6	.0082	28.8	11.6	12.4	59.2	.0148	21.7
5	28.5	29.2	51.8	.0062	35.7	14.9	15.7	52.6	.0113	26.7	12.3	12.8	74.2	.0178	18.1
6	26.7	27.1	57.8	.0065	35.2	13.3	14.1	55.8	.0129	24.3	12.6	13.3	62.7	.0149	21.6
7	33.5	34.2	43.6	.0042	40.5	17.5	17.9	73.2	.0137	23.2	13.4	14.0	67.0	.0153	21.2
8	34.7	35.1	29.4	.0020	45.9	23.9	24.5	46.0	.0061	36.1	16.3	16.8	69.2	.0136	23.4
9	35.3	35.7	25.8	.0017	46.8	26.7	27.3	37.8	.0042	40.3	18.4	19.1	51.7	.0092	30.2
10	33.9	34.5	28.3	.0022	45.3	26.2	26.7	49.9	.0057	36.8	18.4	19.0	59.0	.0103	28.1
11	—31.3	—31.8	30.8	.0027	—43.8	—28.4	—28.8	53.6	0.0055	—37.1	—18.8	—19.6	43.8	0.0076	—32.9
Means.			41.64	0.0046	—39.34			46.17	0.0074	—34.13			59.38	0.0124	—25.76

Date.	MARCH, 1873.														
	10.					11.					12.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	—20.0	—20.6	54.8	0.0089	—30.7	—29.3	—29.9	50.3	0.0048	—38.5	—12.1	—12.5	79.5	0.0193	—16.8
1	20.8	21.4	53.2	.0084	31.9	26.6	27.3	26.5	.0030	43.2	7.7	8.5	65.0	.0200	16.2
2	21.0	21.6	52.8	.0082	32.1	25.6	26.2	41.4	.0048	38.5	8.6	9.4	63.6	.0186	17.3
3	19.7	20.3	55.4	.0092	30.1	25.1	25.7	42.9	.0052	37.7	9.7	10.5	62.0	.0173	19.0
4	18.5	19.1	58.7	.0103	28.3	26.3	26.7	58.6	.0068	34.6	12.1	12.7	68.6	.0167	19.5
5	16.8	17.6	48.8	.0095	29.5	25.3	25.7	60.6	.0075	33.2	14.8	15.6	52.8	.0114	26.5
6	16.5	17.4	49.0	.0085	29.3	24.5	24.8	72.2	.0092	30.1	15.7	16.5	51.0	.0105	27.8
7	16.6	17.4	49.2	.0097	29.2	23.4	23.8	64.4	.0088	31.0	17.5	17.9	73.2	.0137	23.2
8	19.4	19.7	78.3	.0131	23.9	23.4	23.8	64.4	.0088	31.0	18.0	18.7	52.9	.0095	29.5
9	20.4	20.7	77.3	.0122	25.2	24.5	24.8	72.2	.0092	30.1	17.8	18.6	46.2	.0085	31.3
10	19.8	20.5	48.0	.0079	30.5	23.5	24.1	46.8	.0063	35.6	16.6	17.3	55.7	.0109	27.4
11	17.5	18.1	60.8	.0112	26.8	23.6	24.2	46.6	.0062	35.8	15.8	16.6	50.8	.0104	27.9
Noon.	18.9	19.5	57.5	.0099	29.0	22.9	23.5	48.5	.0067	34.7	16.0	16.6	62.8	.0126	24.7
1h	21.1	21.6	60.0	.0093	29.6	22.7	23.3	49.1	.0068	34.4	14.5	15.0	72.0	.0155	20.9
2	20.8	21.5	46.0	.0072	34.0	22.6	23.2	49.4	.0069	34.3	15.5	15.9	76.1	.0156	20.8
3	22.7	23.2	57.6	.0081	32.1	22.3	22.7	66.6	.0095	29.4	15.9	16.6	56.8	.0115	26.3
4	24.1	24.5	63.0	.0084	31.8	21.3	21.7	68.3	.0104	28.2	15.6	16.2	63.6	.0130	24.1
5	25.0	25.5	53.0	.0066	35.2	21.0	21.6	52.8	.0082	32.1	16.8	17.3	68.4	.0131	24.0
6	26.6	27.1	48.7	.0051	37.3	22.0	22.5	59.0	.0086	31.0	17.3	17.8	67.4	.0126	24.7
7	27.3	27.9	35.4	.0037	41.3	20.5	21.2	46.6	.0074	33.4	19.0	19.5	64.5	.0110	27.0
8	28.4	28.8	53.6	.0055	37.1	20.3	21.0	47.0	.0075	33.0	20.0	20.5	62.5	.0102	28.4
9	29.3	29.7	50.9	.0050	38.3	19.3	19.8	63.6	.0107	27.5	18.4	19.3	38.1	.0068	34.3
10	29.5	30.1	23.6	.0024	44.7	19.0	19.6	57.2	.0098	29.1	19.3	19.9	56.3	.0095	29.4
11	—30.4	—30.9	34.4	0.0032	—42.7	—18.9	—19.6	50.2	0.0087	—31.0	—20.4	—21.0	54.0	0.0086	—31.2
Means.			52.92	0.0080	—32.53			54.38	0.0076	—33.23			60.99	0.0128	—24.92

Date.	MARCH, 1873.														
	13.					14.					15.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	*Inches.*	°	°	°	p. c.	*Inches.*	°	°	°	p. c.	*Inches.*	°
0h	—20.9	—21.4	61.2	0.0095	—29.4	—29.6	—30.1	37.6	0.0036	—41.6	—29.4	—29.8	50.6	0.0049	—38.4
1	19.6	20.4	41.8	.0069	34.1	29.4	29.8	50.6	.0049	38.4	28.7	29.3	28.2	.0029	43.5
2	21.5	22.0	60.0	.0090	30.3	28.5	28.9	53.3	.0054	37.2	28.9	29.5	27.0	.0028	43.8
3	21.6	22.0	68.0	.0101	28.5	27.4	27.8	56.4	.0061	35.9	29.1	29.6	39.6	.0039	40.9
4	23.4	23.7	73.3	.0100	28.8	27.4	27.8	56.4	.0061	35.9	28.1	28.6	54.2	.0056	36.9
5	25.7	26.2	51.4	.0060	36.1	29.5	29.8	63.4	.0060	36.1	27.0	27.6	36.6	.0040	40.7
6	25.5	26.0	52.0	.0061	35.8	28.6	28.8	77.2	.0078	32.8	26.8	27.5	25.5	.0029	43.5
7	24.7	25.4	34.0	.0043	39.8	29.4	29.7	63.6	.0061	36.0	25.0	25.4	61.2	.0077	32.9
8	26.5	27.0	49.0	.0054	37.2	24.3	24.8	54.4	.0069	34.2	24.4	24.8	62.4	.0081	32.1
9	27.0	27.5	47.5	.0052	37.9	22.6	23.4	31.4	.0046	39.1	22.7	23.2	57.6	.0081	32.1
10	27.5	27.9	56.2	.0060	36.0	20.8	21.6	38.2	.0059	36.3	22.6	23.1	57.8	.0081	31.9
11	26.5	27.0	49.0	.0054	37.2	20.8	21.5	46.0	.0072	34.0	23.0	23.5	57.0	.0079	32.4
Noon.	26.3	26.7	58.6	.0068	34.6	24.8	25.4	43.8	.0054	37.2	22.9	23.4	57.2	.0080	32.3
1h	26.4	26.6	79.4	.0091	30.3	26.3	26.7	58.6	.0068	34.6	22.5	22.8	74.4	.0105	27.7
2	23.4	23.7	73.3	.0100	28.8	27.2	27.6	56.8	.0062	35.7	23.9	24.4	57.2	.0080	32.3
3	24.6	24.8	81.2	.0103	28.2	27.7	28.2	45.2	.0047	39.0	24.5	24.8	72.2	.0092	30.1
4	27.8	28.2	55.4	.0058	36.5	27.5	28.0	46.0	.0048	38.6	24.3	24.7	62.6	.0082	32.0
5	30.5	30.8	61.4	.0054	37.2	26.0	26.5	50.5	.0059	36.5	25.5	25.8	70.4	.0085	31.4
6	31.0	31.5	32.0	.0029	43.5	25.9	26.5	40.5	.0047	39.0	24.8	25.2	61.6	.0078	32.7
7	29.6	30.3	32.2	.0029	43.4	26.5	27.0	49.0	.0054	37.2	25.3	25.7	60.6	.0075	33.2
8	31.5	31.8	32.4	.0029	43.4	26.5	26.9	58.2	.0066	34.8	25.9	26.5	40.5	.0047	39.0
9	29.8	30.5	32.6	.0029	43.4	26.5	27.2	27.0	.0030	43.1	25.5	25.9	60.2	.0073	33.4
10	30.8	31.3	32.8	.0030	43.3	29.7	30.0	63.0	.0058	36.4	25.6	26.0	40.8	.0047	38.8
11	—30.7	—31.3	32.9	0.0030	—43.3	—30.3	—30.7	47.9	0.0044	—39.6	—26.9	—27.3	57.4	0.0064	—35.4
Means.			51.98	0.0058	—36.13			50.63	0.0056	—37.05			53.02	0.0066	—35.31

Date.	MARCH, 1873.														
	16.					17.					18.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	*Inches.*	°	°	°	p. c.	*Inches.*	°	°	°	p. c.	*Inches.*	°
0h	—28.9	—29.4	40.4	0.0040	—40.7	—16.7	—17.4	55.6	0.0108	—27.5	—21.3	—21.9	52.2	0.0079	—32.4
1	29.8	30.5	44.0	.0041	40.2	16.7	17.3	61.7	.0120	25.8	27.2	27.8	35.8	.0038	41.0
2	30.4	30.8	47.6	.0043	39.7	16.9	17.6	55.4	.0106	27.8	27.9	28.5	32.5	.0034	42.2
3	30.3	30.8	34.8	.0032	42.6	17.2	17.8	61.2	.0115	26.4	29.9	30.3	49.1	.0046	39.2
4	29.6	30.0	50.0	.0047	38.7	17.6	17.3	55.7	.0109	27.4	31.2	31.4	73.2	.0062	35.6
5	29.5	29.9	50.3	.0048	38.5	19.2	19.7	63.9	.0108	27.3	32.5	32.8	55.6	.0043	39.8
6	29.3	29.7	50.9	.0050	38.3	18.2	18.7	66.3	.0118	26.0	33.5	33.9	35.4	.0025	43.2
7	26.9	27.6	25.0	.0028	43.7	18.1	18.6	66.4	.0119	25.8	33.5	33.9	35.4	.0025	43.2
8	25.5	26.1	41.7	.0049	38.4	18.3	19.6	62.7	.0111	26.9	32.8	33.5	52.9	.0039	40.2
9	24.9	25.6	33.0	.0042	40.2	18.4	19.0	59.0	.0103	28.1	32.6	32.8	70.4	.0054	37.2
10	24.8	25.5	33.5	.0043	40.0	18.4	18.8	72.2	.0128	24.4	32.5	32.8	55.6	.0043	39.8
11	23.8	24.5	37.0	.0050	38.4	18.4	19.0	59.0	.0103	28.1	32.0	32.5	27.5	.0024	45.0
Noon.	22.4	22.8	66.4	.0094	29.5	18.6	19.2	58.4	.0102	28.5	30.2	30.5	62.0	.0056	36.9
1h	20.4	20.9	62.1	.0098	28.8	18.7	19.5	44.0	.0077	32.8	28.6	28.8	77.2	.0078	32.8
2	18.7	18.8	94.0	.0162	20.0	19.2	19.8	56.6	.0096	29.3	28.5	28.7	77.3	.0079	32.7
3	13.6	14.4	55.2	.0126	24.7	19.4	19.8	71.2	.0119	25.6	31.3	31.6	59.2	.0050	38.2
4	13.6	14.3	61.4	.0139	23.0	19.8	20.3	62.7	.0104	28.2	32.0	32.2	71.6	.0057	36.6
5	14.3	14.8	72.2	.0157	20.7	20.8	21.3	61.4	.0096	29.3	33.9	34.1	67.7	.0048	38.7
6	15.0	15.6	64.4	.0137	23.1	21.5	21.9	68.1	.0102	28.4	35.5	35.7	62.9	.0040	40.6
7	15.2	15.8	64.2	.0134	23.5	21.3	21.8	60.4	.0091	29.9	35.1	35.4	46.4	.0030	43.1
8	16.0	16.6	62.8	.0126	24.7	21.4	22.1	44.6	.0067	34.8	36.0	36.5	46.8	.0032	43.0
9	16.3	16.8	69.2	.0136	23.4	22.4	23.0	50.0	.0070	34.0	36.3	36.7	47.6	.0034	42.8
10	16.3	16.8	69.2	.0136	23.4	23.1	23.7	47.9	.0066	35.0	36.2	36.6	48.2	.0036	42.4
11	—16.5	—17.1	61.9	0.0121	—25.5	—25.5	—26.0	52.0	0.0061	—35.8	—34.3	—34.8	49.9	0.0038	—42.0
Means.			53.80	0.0087	—32.07			59.02	0.0096	—28.88			53.85	0.0045	—39.53

Date.	MARCH, 1873.														
	19.					20.					21.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0^h	—33.2	—33.5	53.0	0.0040	—40.6	—15.6	—16.2	63.6	0.0130	—24.1	—13.7	—14.5	55.0	0.0125	—24.9
1	30.3	32.8	26.0	.0022	45.3	15.4	15.9	70.2	.0145	22.1	15.1	15.4	83.2	.0173	18.8
2	31.1	31.5	45.0	.0040	40.8	15.3	15.8	70.4	.0146	22.0	18.6	18.8	86.2	.0150	21.6
3	8.5	29.0	42.0	.0042	40.0	15.3	15.8	70.4	.0146	22.0	18.2	18.6	72.4	.0130	24.1
4	28.6	29.2	28.8	.0029	43.3	14.1	14.7	65.6	.0146	22.1	17.0	17.7	55.3	.0105	27.9
5	27.2	27.7	46.9	.0051	38.2	14.2	14.7	72.3	.0158	20.6	18.6	19.0	72.0	.0126	24.7
6	24.0	24.6	45.8	.0060	36.2	13.9	14.6	60.8	.0136	23.4	18.9	19.5	57.5	.0099	29.0
7	20.2	20.7	62.3	.0100	28.6	14.3	14.7	77.3	.0169	19.3	18.6	18.7	94.0	.0163	19.9
8	19.2	19.8	56.6	.0096	29.3	13.9	14.6	60.8	.0136	23.4	17.9	18.5	60.0	.0108	27.4
9	18.4	19.0	59.0	.0103	28.1	13.3	14.1	61.6	.0141	22.6	19.6	19.8	85.2	.0141	22.6
10	17.4	17.9	67.2	.0126	24.8	12.8	13.5	62.5	.0147	21.9	18.4	18.8	72.2	.0128	24.4
11	16.5	16.9	75.1	.0146	22.0	12.6	13.3	62.7	.0149	21.6	18.6	18.8	86.2	.0150	21.6
Noon.	15.4	15.9	70.2	.0145	22.1	11.6	12.1	74.9	.0187	17.3	20.5	20.7	85.0	.0133	23.5
1^h	15.3	15.8	70.4	.0146	22.0	11.1	11.6	75.4	.0193	16.6	21.1	21.3	84.7	.0129	24.3
2	15.5	16.0	70.0	.0144	22.2	10.5	11.0	76.0	.0200	16.0	22.5	22.7	83.3	.0117	25.9
3	15.3	15.8	70.4	.0146	22.0	11.3	11.6	85.4	.0215	14.6	22.8	23.1	73.9	.0103	28.2
4	14.4	15.0	67.0	.0153	21.2	11.9	12.3	79.7	.0195	16.5	21.5	21.7	84.3	.0125	24.7
5	14.7	15.3	64.7	.0140	22.7	13.6	14.0	78.0	.0176	18.5	24.3	24.5	81.5	.0105	27.9
6	15.5	16.0	70.0	.0144	22.2	13.8	14.5	61.0	.0137	23.3	24.8	25.0	81.0	.0101	28.5
7	15.5	16.2	57.6	.0119	25.7	14.3	14.7	77.3	.0169	19.3	23.8	24.5	37.0	.0050	38.4
8	15.5	16.0	70.0	.0144	22.2	14.4	14.9	72.1	.0156	20.8	22.7	23.3	49.1	.0068	34.4
9	15.6	16.3	57.4	.0118	25.9	14.4	14.8	77.2	.0168	19.4	23.4	23.6	82.4	.0111	26.9
10	15.7	16.4	57.2	.0117	26.0	14.3	14.8	72.2	.0157	20.7	24.5	24.7	81.3	.0104	28.1
11	—15.7	—16.4	57.2	0.0117	—26.0	—14.4	—15.0	65.0	0.0143	—22.4	—24.3	—24.9	45.2	0.0056	—36.5
Means.			57.91	0.0104	—29.06			70.52	0.0160	—20.44			72.83	0.0117	—26.42

Date.	MARCH, 1873.														
	22.					23.					24.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0^h	—24.5	—24.9	62.2	0.0080	—32.2	—25.8	—26.5	29.5	0.0035	—41.8	—18.0	—19.2	31.4	0.0051	—39.0
1	25.2	25.7	52.6	.0064	35.5	27.4	27.8	56.4	.0061	35.9	17.8	19.1	39.5	.0060	37.5
2	25.7	26.0	70.0	.0083	31.7	27.1	27.7	36.2	.0039	40.9	21.2	21.9	45.2	.0068	34.5
3	25.4	25.8	60.4	.0074	33.3	28.7	29.3	28.2	.0029	43.5	27.9	28.5	44.3	.0069	34.2
4	25.4	25.9	52.2	.0062	35.7	27.1	27.7	36.2	.0039	40.9	26.7	27.5	43.4	.0070	33.9
5	26.5	26.8	69.2	.0078	32.5	26.4	26.9	49.3	.0055	37.1	19.4	20.2	42.4	.0071	33.8
6	26.6	27.0	58.0	.0065	35.0	26.1	26.8	28.6	.0033	42.4	15.7	16.7	39.6	.0080	32.4
7	26.5	26.8	69.2	.0078	32.5	24.5	25.1	44.7	.0056	36.8	10.9	11.8	55.4	.0144	22.2
8	25.8	26.0	80.0	.0094	29.7	23.8	24.5	37.0	.0050	38.4	6.4	7.6	51.8	.0166	19.7
9	25.8	26.6	18.6	.0024	45.0	22.6	23.4	31.4	.0046	39.1	5.4	6.6	53.8	.0181	18.2
10	25.6	26.3	30.1	.0036	41.4	24.3	24.8	54.4	.0069	34.2	3.7	4.9	57.1	.0207	15.4
11	25.6	26.3	30.1	.0036	41.4	26.7	27.2	48.4	.0053	37.5	4.3	4.6	89.1	.0315	6.7
Noon.	25.6	26.3	30.1	.0036	41.4	26.9	27.7	44.9	.0052	38.0	4.9	6.0	58.0	.0201	15.9
1^h	25.4	25.8	60.4	.0074	33.3	25.6	26.2	41.4	.0048	38.5	2.5	3.6	61.8	.0241	12.5
2	25.4	25.8	60.4	.0074	33.3	28.4	28.8	53.6	.0055	37.1	3.0	4.3	54.4	.0207	15.6
3	25.2	25.7	52.6	.0064	35.5	24.0	24.7	36.6	.0048	38.7	9.5	10.2	66.8	.0187	17.3
4	28.5	28.9	53.3	.0054	37.2	22.5	22.9	66.2	.0093	29.6	8.7	9.7	55.6	.0160	20.4
5	28.5	29.3	59.2	.0062	36.0	22.7	23.5	31.0	.0046	39.3	14.6	15.2	64.8	.0141	22.6
6	30.6	31.2	66.3	.0069	35.0	27.5	28.5	44.0	.0071	34.3	21.0	21.5	61.0	.0094	29.5
7	29.5	29.7	75.6	.0073	33.7	19.3	19.9	56.3	.0095	29.4	23.5	24.3	46.4	.0062	35.9
8	30.8	31.4	66.0	.0068	35.0	24.3	24.9	45.2	.0056	36.5	24.0	24.7	36.6	.0048	38.7
9	27.7	28.5	56.0	.0058	37.0	31.6	32.1	29.5	.0026	44.3	27.3	27.7	56.6	.0062	35.8
10	27.5	28.0	46.0	.0048	38.6	25.7	26.5	19.0	.0025	44.8	26.0	26.6	40.2	.0046	39.1
11	—26.9	—27.5	37.0	0.0041	—40.6	—21.5	—22.4	26.4	0.0043	—40.0	—23.5	—24.1	46.8	0.0063	—35.6
Means.			54.81	0.0062	—35.94			40.60	0.0051	—38.29			51.75	0.0127	—26.93

Date.	MARCH, 1873.														
	25.					26.					27.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	—18.8	—19.4	57.8	0.0100	—28.9	—28.5	—28.9	53.3	0.0054	—37.2	—28.4	—28.8	53.6	0.0055	37.1
1	20.7	21.3	53.4	.0084	31.8	29.4	29.8	50.6	.0049	38.4	26.8	27.6	45.4	.0047	39.2
2	21.5	22.0	60.0	.0090	30.3	30.4	30.8	47.6	.0043	39.7	27.0	27.6	36.6	.0040	40.7
3	21.4	22.0	52.0	.0078	32.5	27.2	27.7	46.9	.0051	38.2	29.5	29.9	50.3	.0048	38.5
4	23.2	23.7	56.6	.0077	32.6	27.4	27.7	67.6	.0073	33.6	31.4	31.7	58.9	.0050	38.3
5	21.6	22.3	43.8	.0065	35.2	31.3	31.8	30.8	.0027	43.8	31.5	31.8	58.6	.0049	38.4
6	21.5	22.2	44.2	.0066	35.0	28.5	29.0	42.0	.0042	40.0	31.1	31.6	31.6	.0028	43.6
7	23.6	24.0	64.0	.0086	31.2	24.9	25.6	33.0	.0042	40.2	27.5	28.1	34.5	.0036	41.6
8	22.4	22.8	66.4	.0094	29.5	24.5	25.2	39.0	.0051	38.1	28.4	28.8	53.6	.0055	37.1
9	25.7	26.2	51.4	.0060	36.1	23.9	24.5	46.0	.0061	36.1	29.3	29.8	38.8	.0038	41.1
10	25.9	26.5	40.5	.0047	39.0	23.4	23.6	82.4	.0111	26.9	29.5	30.1	23.6	.0024	44.7
11	24.7	25.1	61.8	.0079	32.6	22.9	23.5	48.5	.0067	34.7	27.6	28.4	27.5	.0034	42.5
Noon.	25.8	26.3	51.1	.0060	36.2	21.2	21.7	60.6	.0092	29.7	23.0	24.2	29.6	.0044	39.9
1h	27.1	27.7	36.2	.0039	40.9	22.5	23.0	58.0	.0082	31.7	20.4	21.3	31.5	.0051	37.8
2	28.7	29.2	41.2	.0041	40.4	24.6	25.1	53.8	.0068	34.6	21.4	22.4	28.4	.0045	39.6
3	23.5	24.2	37.6	.0051	38.0	26.7	27.4	26.0	.0029	43.4	21.7	22.7	25.2	.0040	41.4
4	23.7	24.5	28.0	.0039	41.0	27.5	27.9	56.2	.0060	36.0	22.6	23.5	22.0	.0035	42.1
5	24.3	24.7	62.6	.0082	32.0	30.4	30.8	41.2	.0041	40.4	21.5	22.5	36.1	.0052	38.0
6	24.8	25.5	33.5	.0043	40.0	32.3	32.7	40.2	.0033	42.5	22.3	22.9	50.2	.0070	33.9
7	24.9	25.6	33.0	.0042	40.2	34.3	34.7	31.5	.0022	45.4	22.4	23.1	40.7	.0059	36.4
8	26.3	26.9	39.3	.0044	39.6	35.2	35.7	28.6	.0020	46.1	22.5	23.1	49.7	.0069	34.1
9	27.4	27.8	56.4	.0061	35.9	35.3	35.7	25.8	.0017	46.8	21.9	22.7	34.2	.0051	38.1
10	28.5	29.3	55.3	.0059	36.6	34.4	34.8	31.0	.0021	45.5	25.2	25.7	52.6	.0064	35.5
11	—29.6	—30.3	54.4	0.0057	—37.0	—34.5	—34.9	30.5	0.0021	—45.6	—26.3	—26.9	39.3	0.0044	39.6
Means.			49.18	0.0064	—35.52			44.63	0.0049	—38.94			39.69	0.0047	39.13

Date.	MARCH, 1873.														
	28.					29.					30.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	—27.1	—27.7	36.2	0.0039	—40.9	—27.5	—28.2	22.0	0.0024	—44.5	—28.2	—29.1	40.1	0.0042	40.1
1	27.7	28.2	45.2	.0047	39.0	26.9	27.7	35.6	.0046	39.3	29.2	30.4	40.1	.0042	40.1
2	27.8	28.5	20.5	.0023	45.1	26.5	27.4	35.6	.0046	39.3	29.2	30.3	40.1	.0042	40.1
3	28.7	29.7	20.6	.0022	45.2	27.8	28.7	35.6	.0046	39.3	29.5	30.9	40.1	.0042	40.1
4	30.9	31.6	20.8	.0021	45.3	26.9	27.8	35.6	.0046	39.3	28.7	29.2	41.2	.0041	40.4
5	32.7	33.6	21.0	.0020	45.4	22.5	23.1	49.7	.0069	34.1	28.5	29.7	27.8	.0030	43.3
6	30.1	30.7	21.2	.0020	45.6	25.2	26.5	39.3	.0055	37.1	26.5	27.5	27.8	.0030	43.3
7	26.3	27.2	26.2	.0025	44.6	25.6	26.8	39.3	.0055	37.1	28.7	29.6	27.8	.0030	43.3
8	31.2	31.8	31.3	.0030	43.6	23.2	24.0	29.0	.0041	40.2	25.2	26.1	27.8	.0030	43.3
9	26.9	27.7	36.4	.0035	42.6	27.4	28.1	22.5	.0025	44.4	24.7	25.6	14.4	.0020	46.2
10	26.4	27.5	40.5	.0040	41.0	27.7	28.6	21.7	.0024	44.6	25.5	26.5	14.0	.0020	46.2
11	27.8	28.3	44.8	.0047	39.1	27.7	28.4	21.0	.0023	44.9	32.2	33.0	14.0	.0020	46.2
Noon.	28.5	29.2	40.6	.0040	40.3	28.6	29.3	30.0	.0033	42.3	25.6	26.6	14.0	.0020	46.2
1h	29.1	30.8	36.2	.0036	41.5	29.7	30.5	30.0	.0033	42.3	27.6	28.4	14.0	.0020	46.2
2	28.2	28.8	31.0	.0032	42.6	28.2	29.1	30.0	.0033	42.3	28.8	29.8	14.0	.0020	46.2
3	27.1	27.8	24.0	.0027	44.0	28.4	29.2	30.0	.0033	42.3	31.0	32.0	14.0	.0020	46.2
4	26.6	28.5	25.0	.0029	43.9	29.7	30.5	30.0	.0033	42.3	31.2	32.3	14.0	.0020	46.2
5	24.7	25.7	26.0	.0030	43.6	29.9	31.0	30.0	.0033	42.3	31.0	31.6	14.0	.0020	46.2
6	26.3	27.0	28.0	.0031	42.8	31.8	32.6	30.0	.0033	42.3	29.4	30.2	14.0	.0020	46.2
7	27.3	28.0	23.0	.0025	44.3	32.7	33.5	30.0	.0033	42.3	30.5	31.3	14.0	.0020	46.2
8	28.6	29.7	23.2	.0025	44.4	32.5	33.3	30.0	.0033	42.3	30.5	31.5	14.0	.0020	46.2
9	28.9	29.7	23.3	.0025	44.4	26.4	27.0	39.0	.0043	39.8	30.4	31.0	14.0	.0020	46.2
10	30.6	31.4	23.4	.0025	44.4	25.5	27.8	40.1	.0042	40.1	30.0	30.8	14.0	.0020	46.2
11	—29.3	—29.9	24.6	0.0025	—44.4	—29.2	—30.0	40.1	0.0042	—40.1	—30.1	—30.8	14.0	0.0020	—46.2
Means.			28.87	0.0030	—43.25			32.34	0.0038	—41.03			21.80	0.0026	—44.46

Date.	MARCH, 1873.					APRIL, 1873.									
	31.					1.					2.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°
0^h	—29. 2	—30. 0	14. 0	0. 0020	—46. 2	—29. 6	—30. 3	54. 0	0. 0020	—46. 2	—31. 2	—32. 2	41. 3	0. 0057	—36. 6
1	28. 3	29. 3	......	......	......	29. 3	29. 7	50. 9	. 0050	38. 3	27. 9	28. 7	......	......	......
2	27. 5	28. 3	......	......	......	29. 7	30. 4	57. 1	. 0055	37. 2	31. 2	32. 3	......	......	......
3	28. 3	29. 3	......	......	......	30. 3	31. 0	57. 1	. 0055	37. 2	29. 8	30. 6	......	......	......
4	28. 3	29. 3	......	......	......	29. 5	29. 8	63. 4	. 0060	36. 1	31. 5	32. 4	......	......	......
5	29. 8	30. 7	......	......	......	28. 2	28. 7	43. 2	. 0045	39. 5	30. 1	31. 3	......	......	......
6	28. 3	29. 2	......	......	......	29. 0	29. 8	37. 1	. 0038	41. 1	30. 1	31. 2	......	......	......
7	27. 2	28. 0	......	......	......	28. 2	28. 8	31. 0	. 0032	42. 6	28. 6	29. 8	......	......	......
8	28. 2	29. 0	......	......	......	26. 2	26. 7	29. 5	. 0035	41. 8	23. 1	24. 1	......	......	......
9	27. 2	28. 2	......	......	......	25. 4	26. 2	20. 2	. 0026	44. 2	20. 4	21. 2	......	......	......
10	28. 1	29. 0	......	......	......	24. 2	25. 0	27. 0	. 0034	42. 0	20. 0	21. 1	......	......	......
11	27. 0	27. 8	......	......	......	26. 2	27. 3	23. 0	. 0029	43. 4	20. 1	22. 1	......	......	......
Noon.	26. 3	27. 3	......	......	......	25. 9	26. 8	23. 0	. 0029	43. 4	23. 1	24. 3	......	......	......
1^h	26. 1	27. 0	......	......	......	25. 7	26. 5	19. 0	. 0025	44. 8	26. 2	27. 1	......	......	......
2	26. 0	27. 3	......	......	......	21. 7	22. 6	25. 6	. 0041	40. 4	26. 5	27. 5	......	......	......
3	27. 5	28. 3	......	......	......	21. 5	22. 4	26. 4	. 0043	40. 0	26. 8	27. 9	......	......	......
4	27. 9	28. 7	......	......	......	20. 9	21. 5	30. 7	. 0048	38. 8	28. 5	29. 2	......	......	......
5	27. 7	28. 5	......	......	......	21. 7	22. 5	35. 0	. 0053	37. 7	27. 2	28. 0	......	......	......
6	27. 0	28. 8	......	......	......	24. 7	25. 3	44. 1	. 0055	37. 1	29. 2	30. 0	......	......	......
7	27. 1	27. 9	......	......	......	26. 9	27. 7	41. 3	. 0057	36. 6	30. 6	31. 4	......	......	......
8	27. 6	28. 4	......	......	......	25. 7	26. 6	41. 3	. 0057	36. 6	30. 5	31. 2	......	......	......
9	28. 5	29. 3	......	......	......	26. 2	27. 0	41. 3	. 0057	36. 6	30. 2	31. 0	......	......	......
10	27. 7	28. 5	......	......	......	31. 5	32. 4	41. 3	. 0057	36. 6	30. 0	30. 8	......	......	......
11	—28. 5	—29. 2	......	......	......	—31. 2	—31. 9	41. 3	0. 0057	—36. 6	—28. 8	—29. 8	......	......	......
Means.			14. 00	0. 0020	—46. 20			35. 99	0. 0044	—39. 75			41. 30	0. 0057	—36. 60

Date.	APRIL, 1873.														
	3.					4.					5.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°
0^h	—30. 4	—31. 2	41. 3	0. 0057	—36. 6	—27. 3	—28. 3	36. 0	0. 0038	—41. 1	—19. 0	—19. 6	57. 2	0. 0098	—29. 1
1	31. 2	32. 1	......	......	......	26. 2	27. 0	......	......	......	17. 5	18. 3	47. 1	. 0088	30. 8
2	30. 3	31. 3	......	......	......	27. 0	27. 8	......	......	......	18. 4	19. 2	44. 6	. 0080	32. 3
3	31. 1	32. 0	......	......	......	27. 0	27. 9	......	......	......	18. 6	19. 6	46. 5	. 0084	31. 5
4	31. 0	31. 8	......	......	......	27. 1	28. 1	......	......	......	17. 5	18. 3	47. 1	. 0088	30. 8
5	27. 4	28. 3	......	......	......	26. 3	27. 0	28. 0	0. 0031	—42. 8	18. 3	18. 9	59. 2	. 0104	28. 0
6	22. 0	23. 0	......	......	......	25. 3	26. 0	31. 0	. 0038	40. 9	18. 5	19. 1	58. 7	. 0103	28. 3
7	20. 7	21. 5	38. 5	0. 0060	—36. 1	23. 5	24. 5	42. 2	. 0061	36. 3	17. 8	18. 6	46. 2	. 0085	31. 3
8	19. 2	19. 6	71. 4	. 0121	25. 4	20. 7	21. 3	53. 4	. 0084	31. 8	17. 6	18. 2	60. 6	. 0111	26. 9
9	15. 3	15. 8	70. 4	. 0146	22. 0	18. 3	19. 1	44. 8	. 0081	32. 2	17. 5	18. 2	54. 4	. 0100	28. 7
10	18. 2	19. 1	38. 7	. 0070	34. 1	16. 0	17. 0	39. 0	. 0077	32. 7	17. 4	18. 0	61. 0	. 0113	26. 6
11	15. 6	16. 4	51. 2	. 0106	27. 6	15. 2	15. 9	58. 2	. 0122	25. 3	17. 0	17. 7	55. 3	. 0105	28. 0
Noon.	15. 0	15. 6	64. 4	. 0137	23. 1	14. 2	15. 1	48. 7	. 0108	27. 5	17. 2	17. 9	55. 1	. 0103	28. 3
1^h	17. 5	18. 0	67. 0	. 0125	24. 9	18. 2	19. 1	38. 7	. 0070	34. 1	16. 7	17. 3	61. 7	. 0120	25. 8
2	18. 8	19. 8	62. 2	. 0102	28. 5	21. 1	21. 6	60. 8	. 0093	29. 6	16. 8	17. 5	55. 5	. 0107	27. 7
3	22. 8	23. 3	57. 4	. 0080	32. 2	23. 1	23. 6	56. 8	. 0078	32. 5	16. 7	17. 5	49. 0	. 0096	29. 4
4	22. 6	23. 2	49. 4	. 0069	34. 3	22. 5	23. 3	31. 8	. 0047	38. 9	16. 8	17. 3	68. 4	. 0131	24. 0
5	24. 6	25. 8	46. 7	0. 0057	—36. 8	23. 5	24. 1	46. 8	. 0063	35. 6	17. 1	17. 7	61. 3	. 0116	26. 3
6	26. 6	27. 8	......	......	......	23. 1	23. 7	47. 9	. 0066	35. 0	17. 2	17. 7	67. 6	. 0127	24. 6
7	28. 0	28. 8	......	......	......	24. 3	24. 8	54. 4	. 0069	34. 2	17. 4	17. 8	73. 4	. 0138	23. 1
8	28. 2	29. 0	......	......	......	26. 5	26. 9	58. 2	. 0066	34. 8	17. 5	18. 0	67. 0	. 0125	24. 9
9	28. 4	29. 2	......	......	......	26. 5	27. 1	38. 6	. 0043	40. 0	17. 5	18. 0	67. 0	. 0125	24. 9
10	28. 2	28. 8	......	......	......	25. 5	25. 9	60. 2	. 0073	33. 4	17. 7	18. 5	46. 5	. 0086	31. 1
11	—28. 0	—28. 5	44. 0	0. 0046	—39. 3	—23. 7	—24. 5	28. 3	0. 0039	—41. 0	—18. 3	—18. 8	66. 2	0. 0117	—26. 1
Means.			49. 33	0. 0077	—33. 50			43. 64	0. 0064	—36. 00			57. 34	0. 0106	—27. 85

Date.	APRIL, 1873.														
	6.					7.					8.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	—18.6	—19.2	58.4	0.0102	—28.5	—14.0	—14.7	60.6	0.0135	—23.6	—14.5	—15.1	64.9	0.0142	—22.5
1	19.0	19.7	49.9	.0086	31.1	13.8	14.5	61.0	.0137	23.3	14.5	15.0	72.0	.0155	20.9
2	19.0	19.6	57.2	.0098	29.1	13.5	14.1	66.8	.0152	21.4	14.5	15.0	72.0	.0155	20.9
3	19.0	19.6	57.2	.0098	29.1	13.5	14.1	66.8	.0152	21.4	14.9	15.5	64.5	.0138	23.0
4	19.0	19.8	43.4	.0074	33.2	13.4	14.3	50.4	.0116	26.2	14.5	15.2	59.6	.0129	24.2
5	19.0	19.7	49.9	.0086	31.1	13.3	14.0	62.0	.0142	22.5	12.6	13.3	62.7	.0149	21.6
6	18.6	19.5	37.5	.0066	34.7	13.3	14.0	62.0	.0142	22.5	11.0	11.6	70.4	.0182	18.0
7	18.0	18.8	45.6	.0083	31.7	12.8	13.6	56.8	.0134	23.5	9.9	10.6	66.4	.0182	17.9
8	17.1	17.8	55.2	.0104	28.1	12.6	13.3	62.7	.0149	21.6	8.5	9.2	67.8	.0202	16.0
9	16.4	17.1	55.9	.0111	27.1	12.4	13.5	42.5	.0102	28.4	7.7	8.7	57.6	.0174	18.9
10	15.7	16.6	44.8	.0092	30.2	12.0	13.5	23.5	.0056	36.8	7.0	7.7	70.3	.0222	14.0
11	15.8	16.6	50.8	.0104	27.9	11.4	12.2	59.6	.0151	21.4	7.8	8.7	61.3	.0185	17.7
Noon.	16.1	16.8	56.4	.0113	26.6	11.5	12.5	48.5	.0124	24.9	7.6	8.6	57.8	.0175	18.7
1h	14.9	15.7	52.6	.0113	26.7	11.5	12.2	64.6	.0162	20.0	8.4	9.2	63.8	.0189	17.0
2	15.3	16.2	45.6	.0096	29.4	11.7	12.3	69.4	.0172	19.0	8.8	9.6	63.4	.0184	17.6
3	15.4	16.1	57.8	.0120	25.6	12.1	12.6	74.4	.0181	17.8	9.0	9.7	67.3	.0195	16.8
4	15.5	16.5	54.4	.0082	26.7	12.0	12.5	74.5	.0182	17.7	8.9	9.7	63.3	.0183	17.8
5	15.7	16.5	51.0	.0105	27.8	12.2	12.7	74.3	.0180	18.0	9.7	10.5	62.0	.0173	19.0
6	15.7	16.7	54.2	.0080	29.2	12.5	13.1	67.9	.0163	20.1	10.7	11.5	60.5	.0159	20.4
7	15.8	16.7	58.4	.0091	30.4	13.1	13.7	67.3	.0156	20.9	11.9	12.7	58.6	.0145	22.2
8	16.1	16.7	62.6	.0125	24.9	13.1	13.7	67.3	.0156	20.9	13.3	13.9	67.1	.0154	21.1
9	15.5	16.4	57.0	.0094	29.8	13.5	14.2	61.6	.0140	22.8	14.8	15.7	46.9	.0101	28.4
10	15.5	16.3	51.4	.0107	27.5	14.3	14.8	72.2	.0157	20.7	16.4	16.9	69.1	.0135	23.5
11	—15.0	—15.6	64.4	0.0137	—23.1	—14.2	—14.7	72.3	0.0158	—20.6	—16.5	—17.1	61.9	0.0121	—25.5
Means.			53.40	0.0099	—28.73			62.04	0.0150	—22.33			63.80	0.0159	—20.25

Date.	APRIL, 1873.														
	9.					10.					11.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	—17.6	—18.4	46.8	0.0087	—30.9	—24.0	—24.7	36.6	0.0048	—38.7	— 5.8	— 6.5	71.5	0.0239	—12.5
1	17.6	18.3	54.1	.0099	28.9	19.2	19.7	63.9	.0108	27.3	5.7	6.2	79.8	.0267	10.2
2	17.6	18.3	54.1	.0099	28.9	24.0	24.5	55.0	.0072	33.7	5.5	6.1	75.9	.0257	11.1
3	17.0	17.7	55.3	.0105	28.0	22.9	23.6	39.2	.0056	37.1	4.2	4.7	81.3	.0291	8.5
4	15.9	16.6	56.8	.0115	26.3	20.8	21.7	45.6	.0070	34.3	4.0	4.6	77.4	.0281	9.2
5	11.6	12.7	44.6	.0111	27.1	15.1	15.7	64.3	.0136	23.3	2.9	3.5	78.5	.0300	7.9
6	9.6	10.3	66.7	.0186	17.5	7.9	8.7	64.6	.0197	16.4	— 0.1	— 0.6	84.4	.0365	3.7
7	7.0	7.6	74.4	.0234	12.8	2.8	3.7	68.3	.0261	10.8	+ 0.6	± 0.0	81.6	.0364	3.7
8	4.5	5.3	69.4	.0247	11.9	1.5	2.4	70.2	.0284	9.0	2.7	+ 1.9	77.6	.0381	2.8
9	11.9	12.6	63.8	.0157	20.6	0.5	1.2	77.6	.0330	5.8	3.5	2.9	83.7	.0427	— 0.4
10	12.8	13.7	51.6	.0122	25.2	0.5	1.2	77.6	.0330	5.8	6.5	5.8	83.1	.0486	+ 2.5
11	14.4	15.0	65.0	.0143	22.4	1.0	2.0	68.0	.0280	9.2	5.6	4.9	82.6	.0464	1.5
Noon.	15.0	15.3	83.4	.0174	18.7	0.8	1.7	71.3	.0298	8.1	6.1	5.1	77.5	.0434	0.1
1h	14.7	15.5	53.0	.0115	26.4	1.3	2.0	76.0	.0315	6.8	5.9	5.0	77.8	.0443	0.5
2	14.5	15.0	72.0	.0155	20.9	1.7	2.7	66.6	.0267	10.2	5.1	+ 4.5	84.7	.0464	+ 1.6
3	14.5	15.0	72.0	.0155	20.9	2.5	3.3	71.7	.0279	9.3	+ 0.1	± 0.0	96.9	.0422	— 0.6
4	14.2	14.7	72.3	.0158	20.6	2.8	3.6	71.4	.0274	9.7	— 4.5	— 5.1	76.9	.0273	9.9
5	14.4	15.0	65.0	.0143	22.4	3.3	3.9	78.1	.0292	8.4	5.6	6.3	71.7	.0243	12.3
6	14.9	15.6	58.8	.0125	24.8	4.3	4.8	81.2	.0289	8.6	7.4	8.0	74.0	.0228	13.4
7	15.8	16.5	57.0	.0116	26.2	4.5	5.0	81.0	.0286	8.8	9.5	10.0	77.0	.0213	14.8
8	17.4	17.9	67.2	.0126	24.8	4.2	4.7	81.3	.0291	8.5	11.5	12.2	64.6	.0162	20.0
9	19.5	20.0	63.0	.0106	27.7	4.7	5.4	72.6	.0256	11.1	12.7	13.5	57.0	.0135	23.4
10	21.5	22.1	51.8	.0078	32.7	5.3	5.9	76.1	.0260	10.8	14.4	14.8	77.2	.0168	19.4
11	—23.0	—23.5	57.0	0.0079	—32.4	— 5.8	— 6.5	71.5	0.0239	—12.5	—15.0	—15.7	58.6	0.0124	—25.0
Means.			61.46	0.0135	—24.12			67.90	0.0230	—15.17			77.05	0.0310	— 8.44

Date.	APRIL, 1873.														
	12.					13.					14.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	*Inches.*	°	°	°	p. c.	*Inches.*	°	°	°	p. c.	*Inches.*	°
0h	−16.1	−16.7	62.6	0.0125	−24.9	−16.0	−16.6	62.8	0.0126	−24.7	+ 1.6	+ 1.0	82.3	0.0385	− 2.5
1	17.0	17.6	61.4	.0117	26.2	16.5	17.2	55.8	.0110	27.2	1.6	1.0	82.3	.0385	2.5
2	16.2	17.7	67.6	.0127	24.6	17.1	17.7	61.3	.0116	26.3	1.4	0.9	85.3	.0395	2.0
3	14.8	15.6	52.8	.0114	26.5	13.5	14.2	61.6	.0140	22.8	2.1	1.4	79.8	.0382	2.7
4	12.3	12.8	74.2	.0178	18.1	10.8	11.5	65.5	.0171	19.2	2.0	1.3	79.7	.0380	2.8
5	10.3	10.7	80.3	.0215	14.6	8.8	9.5	67.5	.0198	16.6	1.6	1.1	85.4	.0399	1.8
6	6.3	6.9	75.1	.0245	12.1	6.7	7.3	74.7	.0239	12.4	2.3	1.8	85.8	.0413	1.0
7	− 1.6	− 2.2	79.8	.0322	6.3	4.2	4.6	85.2	.0303	7.6	5.1	4.1	74.5	.0409	− 1.3
8	+ 0.3	± 0.0	90.8	.0399	1.8	3.8	4.4	77.6	.0284	9.0	4.8	4.1	81.9	.0444	+ 0.5
9	2.3	+ 2.4	75.4	.0381	2.9	1.9	2.5	79.5	.0317	6.8	8.1	7.5	86.4	.0543	+ 4.9
10	1.3	− 0.1	58.7	.0271	10.0	2.9	3.5	78.5	.0300	7.9	8.8	6.3	65.6	.0214	− 1.5
11	+ 0.6	± 0.0	81.6	.0364	3.7	− 2.1	2.7	79.3	.0313	7.0	9.3	9.2	97.8	.0650	+ 8.8
Noon.	− 1.5	− 2.2	75.8	.0311	7.0	+ 0.2	0.3	84.5	.0371	3.4	13.2	12.2	80.9	.0639	8.5
1h	2.5	3.0	83.0	.0319	6.5	− 1.7	2.2	83.0	.0335	5.5	14.2	13.6	87.8	.0731	11.3
2	− 1.4	1.9	83.1	.0340	5.2	1.4	1.8	86.7	.0353	4.3	15.3	15.0	94.7	.0822	14.1
3	+ 0.2	− 0.5	78.3	.0343	5.1	0.9	1.5	80.5	.0336	5.6	15.1	14.6	91.0	.0784	13.0
4	+ 0.3	+ 0.1	93.9	.0412	1.1	0.6	1.0	87.2	.0368	3.5	14.1	13.5	88.9	.0731	11.5
5	− 2.3	− 2.9	79.1	.0309	7.2	1.7	2.2	83.0	.0335	5.5	13.3	12.9	92.4	.0734	11.5
6	4.1	4.8	73.2	.0265	10.4	0.8	1.4	80.6	.0338	5.4	12.8	12.7	98.1	.0762	12.4
7	3.2	4.3	73.5	.0230	13.4	− 0.3	− 0.7	87.4	.0374	3.2	12.2	11.9	94.2	.0711	10.9
8	9.0	11.4	73.8	.0203	16.4	+ 0.8	± 0.0	75.8	.0341	5.1	11.7	11.1	88.1	.0648	8.9
9	12.5	13.0	74.0	.0176	18.5	3.0	+ 2.0	72.3	.0260	4.0	11.3	10.8	89.9	.0651	8.3
10	9.5	10.0	77.0	.0213	14.8	3.0	2.4	83.3	.0415	1.0	11.3	10.4	81.7	.0592	6.7
11	−11.5	−14.0	66.4	0.0166	−19.7	+ 1.5	+ 1.2	91.2	0.0424	− 0.5	+11.3	+10.8	89.9	0.0651	+ 8.3
Means.			74.64	0.0256	−12.37			76.87	0.0328	− 9.77			86.02	0.0561	+ 5.48

Date.	APRIL, 1873.														
	15.					16.					17.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	*Inches.*	°	°	°	p. c.	*Inches.*	°	°	°	p. c.	*Inches.*	°
0h	+11.1	+10.5	87.9	0.0630	+ 8.2	− 0.4	− 0.9	84.2	0.0361	− 3.9	− 7.7	− 8.2	78.0	0.0237	−12.4
1	11.4	10.8	88.0	.0639	8.5	2.7	3.5	71.5	.0276	9.6	8.1	8.7	73.3	.0218	14.2
2	11.3	10.7	88.0	.0636	8.4	3.4	4.0	78.0	.0290	8.5	8.2	8.7	78.0	.0230	13.1
3	11.0	10.3	85.8	.0612	7.5	3.7	4.5	70.5	.0259	10.8	7.7	8.3	73.7	.0224	13.7
4	9.2	8.4	82.6	.0545	5.0	2.8	3.5	74.5	.0287	8.6	7.8	8.5	69.0	.0210	15.0
5	10.0	9.4	87.3	.0598	7.0	2.5	3.1	78.9	.0306	7.4	8.2	8.3	95.4	.0283	9.1
6	9.8	8.8	78.5	.0533	4.5	2.1	2.7	79.3	.0313	7.0	8.5	9.0	78.0	.0226	13.5
7	10.3	9.6	85.4	.0592	6.7	2.3	2.7	86.2	.0336	5.4	7.0	7.7	70.3	.0222	14.0
8	11.9	11.0	82.1	.0611	7.5	1.4	2.0	80.0	.0326	6.1	5.4	6.0	76.0	.0258	10.9
9	13.8	13.0	85.0	.0690	10.2	1.0	1.7	76.6	.0321	6.5	4.3	4.9	77.1	.0276	9.6
10	18.7	18.0	88.8	.0902	16.1	1.0	1.7	76.6	.0321	6.5	3.5	4.2	73.8	.0276	9.5
11	18.7	17.2	76.1	.0774	12.7	1.0	1.7	76.6	.0321	6.5	2.8	3.5	74.5	.0287	8.6
Noon.	11.5	10.4	77.9	.0569	5.9	0.7	1.5	74.3	.0313	7.0	1.8	2.4	79.6	.0319	6.6
1h	10.5	10.0	89.6	.0627	6.2	2.9	3.1	93.0	.0351	4.5	1.6	2.3	75.7	.0309	7.2
2	8.6	8.2	91.0	.06 5	6.5	3.5	4.1	77.9	.0289	8.6	1.8	2.4	79.6	.0319	6.6
3	5.8	5.3	87.6	.0497	+ 3.0	3.5	4.1	77.9	.0289	8.6	1.2	1.8	80.2	.0330	5.9
4	2.7	2.0	80.3	.0395	− 2.1	3.6	4.3	73.7	.0275	9.7	0.9	1.6	76.8	.0323	6.4
5	1.5	1.5	100.0	.0464	+ 1.4	3.4	4.1	73.9	.0278	9.4	0.8	1.5	77.0	.0325	6.3
6	3.5	2.1	62.2	.0316	− 6.8	4.0	4.6	77.4	.0281	9.2	1.5	2.2	75.8	.0311	7.0
7	3.4	2.9	86.4	.0439	+ 0.3	4.7	5.4	72.6	.0256	11.1	2.6	3.2	78.8	.0304	7.5
8	3.4	2.6	78.2	.0397	− 1.8	4.7	5.4	72.6	.0256	11.1	2.5	3.2	74.8	.0292	8.3
9	3.8	3.1	86.5	.0443	+ 0.5	5.3	5.9	76.1	.0260	10.8	3.0	3.7	74.3	.0284	8.8
10	2.1	+ 1.4	79.8	.0382	− 2.7	6.5	7.2	70.8	.0229	13.3	3.5	4.2	73.8	.0276	9.5
11	+ 0.3	− 0.1	87.7	0.0385	− 2.5	− 7.3	− 7.9	74.1	0.0230	−13.3	− 4.9	− 5.6	72.4	0.0253	−11.4
			84.28	0.0515	+ 4.47			76.97	0.0293	− 8.47			76.49	0.0275	− 9.80

Date.	APRIL 1873.														
	18.					19.					20.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°
0h	— 5.5	— 6.1	75.9	0.0257	—11.1	— 8.2	— 8.8	73.2	0.0217	—14.3	— 1.5	— 2.4	70.2	0.0284	— 8.0
1	6.3	6.8	79.2	.0258	10.8	10.7	11.5	60.5	.0159	20.4	— 0.8	— 1.6	75.2	.0311	— 7.1
2	4.3	4.9	77.1	.0276	9.6	10.2	10.8	71.2	.0190	17.0	+ 6.2	+ 5.9	92.7	.0535	+ 4.6
3	0.5	1.0	84.0	.0357	4.2	8.2	8.9	68.2	.0205	15.6	7.4	6.7	83.7	.0511	3.6
4	2.5	3.1	78.9	.0306	7.4	7.1	7.7	74.3	.0233	13.0	8.1	7.0	75.0	.0472	1.8
5	6.3	6.4	96.4	.0310	7.2	8.3	8.9	73.1	.0216	14.5	8.2	7.0	72.8	.0460	1.3
6	5.0	5.7	72.3	.0252	11.5	7.4	7.9	78.1	.0242	12.1	8.2	7.4	81.8	.0517	3.8
7	2.1	2.7	79.3	.0313	7.0	6.6	7.3	70.7	.0228	13.4	9.1	8.0	75.8	.0499	3.0
8	4.5	5.2	72.8	.0259	10.8	4.0	4.6	77.4	.0281	9.2	9.1	8.3	82.5	.0542	4.9
9	2.8	3.5	74.5	.0287	8.6	1.3	1.7	86.7	.0355	4.2	9.4	8.5	80.3	.0537	4.7
10	3.3	3.7	85.7	.0318	6.6	— 1.3	— 1.7	86.7	.0355	4.2	9.3	8.2	75.9	.0505	3.5
11	5.2	5.7	80.3	.0275	9.7	+ 1.3	+ 0.5	76.3	.0351	4.4	10.3	9.4	81.2	.0563	5.6
Noon.	3.5	4.2	73.8	.0276	9.5	1.5	0.8	79.5	.0369	3.4	10.0	8.9	76.7	.0525	4.2
1h	3.5	4.3	70.7	.0262	10.6	3.1	2.4	80.7	.0404	1.7	10.0	9.0	78.7	.0539	4.7
2	2.5	3.1	78.9	.0306	7.4	4.8	3.9	76.8	.0415	1.0	10.1	9.2	81.0	.0557	5.4
3	2.3	2.8	83.0	.0323	6.2	+ 1.8	+ 1.0	76.8	.0362	3.8	10.0	9.2	83.1	.0568	5.8
4	2.7	3.3	78.7	.0303	7.6	— 3.7	— 4.4	73.6	.0273	9.8	9.2	8.2	78.1	.0516	3.8
5	2.4	3.0	79.0	.0307	7.3	4.5	5.0	81.0	.0286	8.8	7.6	7.0	86.0	.0529	4.3
6	2.5	3.2	74.8	.0292	8.3	3.5	4.1	77.9	.0289	8.6	5.3	4.6	82.3	.0456	1.1
7	4.5	5.0	81.0	.0286	8.8	4.5	5.0	81.0	.0286	8.8	5.2	4.4	79.7	.0442	0.5
8	4.7	5.4	72.6	.0256	11.1	3.1	3.9	71.1	.0269	10.1	5.8	5.2	85.1	.0482	2.3
9	6.7	7.4	70.6	.0226	13.5	2.8	3.6	71.4	.0274	9.7	4.3	3.7	84.2	.0445	— 0.6
10	3.[illegible]	4.6	67.4	.0247	12.0	2.5	3.3	71.7	.0279	9.3	+ 1.4	+ 0.6	76.4	.0353	4.2
11	— 4.5	— 5.1	76.9	0.0273	— 9.9	— 2.1	— 2.8	75.2	0.0300	— 7.9	— 2.0	— 2.6	79.4	0.0315	— 6.9
Means.			77.66	0.0284	— 9.03			75.54	0.0285	— 9.38			79.57	0.0486	+ 1.75

Date.	APRIL, 1873.														
	21.					22.					23.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°
0h	— 2.4	— 3.0	79.0	0.0307	— 7.3	— 2.8	— 3.5	74.5	0.0287	— 8.6	— 9.8	—10.6	61.8	0.0171	19.1
1	1.8	2.5	75.5	.0305	7.5	— 3.6	— 4.3	73.7	.0275	9.6	9.5	10.3	62.1	.0176	18.7
2	2.7	3.4	74.6	.0289	8.5	+ 2.0	+ 1.2	76.9	.0366	3.6	8.8	9.6	63.4	.0184	17.6
3	3.2	3.7	82.3	.0306	7.4	— 3.1	— 3.7	78.3	.0296	8.2	9.0	9.7	67.3	.0195	16.8
4	2.5	3.2	74.8	.0292	8.3	4.4	4.8	85.1	.0302	7.7	6.8	7.7	62.6	.0199	16.1
5	2.1	2.7	79.3	.0313	7.0	— 0.8	— 1.3	83.7	.0352	4.5	10.7	11.5	60.5	.0159	20.4
6	1.4	1.9	83.1	.0340	5.2	+ 1.7	+ 1.1	82.4	.0387	2.4	5.0	5.7	72.3	.0252	11.5
7	0.9	1.6	76.8	.0323	6.4	2.3	1.5	77.2	.0372	3.2	— 8.4	9.2	63.8	.0189	17.0
8	— 0.1	0.7	81.3	.0351	4.6	3.5	2.8	81.0	.0414	1.1	± 0.0	— 1.1	65.8	.0285	8.8
9	+ 0.3	— 0.1	87.7	.0385	2.5	6.3	5.2	73.3	.0425	— 0.5	+ 3.5	+ 2.1	62.2	.0316	6.8
10	1.1	+ 0.3	76.1	.0347	4.7	7.2	+ 6.0	71.7	.0433	± 0.0	— 3.0	— 4.0	65.0	.0241	12.0
11	1.3	0.6	79.3	.0365	3.7	+ 0.1	— 0.5	81.3	.0355	— 4.4	2.8	3.8	65.2	.0247	11.7
Noon.	1.5	0.8	79.5	.0369	3.4	— 0.4	1.0	81.0	.0345	4.9	2.5	3.3	71.7	.0279	9.3
1h	2.2	1.5	79.9	.0384	2.6	1.5	2.1	79.9	.0324	6.2	2.4	3.2	71.8	.0280	9.2
2	3.1	2.5	83.4	.0417	0.9	2.2	2.9	75.1	.0298	8.0	3.8	4.7	67.3	.0245	12.1
3	2.7	1.8	74.8	.0367	3.6	2.1	2.9	73.0	.0286	8.8	3.1	3.9	71.1	.0269	10.1
4	2.7	1.9	77.6	.0381	2.8	1.5	2.4	70.2	.0284	9.0	2.5	3.2	74.8	.0292	8.3
5	2.5	1.7	77.4	.0377	3.0	2.8	3.7	68.3	.0261	10.8	3.0	3.8	71.2	.0270	10.0
6	+ 3.6	+ 2.8	78.4	.0401	1.6	5.9	6.7	67.3	.0226	13.7	4.4	4.9	81.1	.0288	8.7
7	— 1.9	— 2.8	69.4	.0277	9.5	7.9	8.6	68.8	.0209	15.1	3.1	3.9	71.1	.0263	10.1
8	— 2.7	— 3.5	71.5	.0376	9.6	8.4	9.1	67.9	.0203	15.9	4.9	5.7	68.6	.0241	12.4
9	+ 1.4	+ 0.4	70.5	.0326	6 0	8.4	9.1	67.9	.0203	15.9	4.4	5.0	77.0	.0274	9.7
10	+ 0.3	— 0.5	75.8	.0332	5.9	8.6	9.4	63.6	.0186	17.5	3.0	3.5	82.5	.0310	7.1
11	— 3.5	— 4.2	73.8	0.0276	— 9.5	— 5.3	— 6.1	67.9	0.0235	—12.8	— 1.5	— 2.2	75.8	0.0311	— 7.0
Means.			77.57	0.0342	— 5.49			74.54	0.0305	— 8.02			69.01		—12.11

APRIL, 1873.

Date.	24.					25.					26.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	— 0.4	— 1.3	71.7	0.0305	— 7.6	+ 3.4	+ 2.8	83.6	0.0424	— 0.5	+ 2.3	+ 1.7	82.8	0.0399	— 1.7
1	— 0.5	1.2	77.6	.0330	5.8	2.7	2.0	80.3	.0395	2.1	1.5	0.8	79.5	.0369	3.4
2	± 0.0	— 0.7	78.2	.0340	5.3	1.6	1.0	82.3	.0385	2.5	0.9	0.0	72.9	.0330	5.8
3	+ 2.1	+ 1.2	74.2	.0355	— 4.2	1.1	0.5	82.0	.0374	3.2	1.4	0.6	76.4	.0353	4.2
4	6.8	5.9	78.5	.0468	+ 1.7	1.6	1.0	82.3	.0385	2.5	2.6	1.5	69.1	.0338	5.5
5	8.5	7.7	82.0	.0526	4.2	1.5	0.9	82.2	.0383	2.6	2.2	1.3	74.4	.0360	4.1
6	8.7	7.9	82.2	.0531	4.4	3.1	2.4	80.7	.0404	— 1.7	2.1	1.4	79.8	.0382	2.7
7	13.5	12.3	77.4	.0619	7.7	6.5	5.8	83.1	.0486	+ 2.5	3.2	2.3	75.3	.0379	3.0
8	17.8	16.3	75.6	.0734	11.5	7.5	6.6	79.1	.0486	2.3	4.2	3.5	81.6	.0430	0.3
9	22.2	20.5	76.0	.0905	16.1	7.2	6.3	78.9	.0477	2.0	3.1	2.4	80.7	.0404	1.7
10	21.6	20.6	85.5	.0991	18.2	7.2	6.2	76.5	.0462	1.3	4.0	3.0	73.5	.0383	2.7
11	20.3	19.4	86.3	.0944	17.2	7.4	6.6	81.3	.0496	2.9	4.8	4.0	79.4	.0429	— 0.2
Noon.	19.7	18.7	84.6	.0898	16.1	7.4	6.5	79.1	.0483	2.2	5.1	4.5	84.7	.0465	+ 1.6
1h	18.7	17.9	87.2	.0886	15.7	8.7	7.9	82.2	.0531	4.4	3.8	2.9	75.9	.0393	— 2.2
2	20.3	19.5	87.9	.0961	17.5	9.0	8.1	80.2	.0525	4.2	4.1	3.0	70.9	.0372	3.4
3	19.3	18.7	90.7	.0946	17.2	8.4	7.9	88.8	.0567	5.8	3.6	2.8	78.4	.0401	1.6
4	19.9	19.2	89.2	.0959	17.5	7.5	6.9	86.0	.0526	4.2	3.3	2.5	78.1	.0395	2.0
5	17.3	16.7	89.9	.0855	15.0	6.3	5.6	83.0	.0481	2.3	2.3	1.7	82.8	.0399	1.7
6	13.4	12.9	90.6	.0721	11.0	6.2	5.5	82.9	.0479	2.2	1.3	+ 0.7	82.2	.0378	2.9
7	12.3	11.8	90.3	.0683	7.0	5.2	4.5	82.2	.0454	+ 1.0	1.7	± 0.0	50.9	.0238	12.5
8	8.2	7.3	79.6	.0498	+ 3.0	4.0	3.3	81.4	.0425	— 0.5	+ 0.3	± 0.0	90.8	.0399	1.8
9	6.0	5.0	75.4	.0431	— 0.1	4.0	3.3	81.4	.0425	0.5	— 0.1	— 0.7	81.2	.0351	4.6
10	5.4	4.7	82.4	.0459	+ 1.2	3.6	3.0	83.7	.0429	0.2	+ 0.4	+ 0.1	90.9	.0401	1.7
11	+ 5.9	+ 5.2	82.7	0.0471	+ 1.8	+ 2.3	+ 1.7	82.8	0.0399	— 1.7	± 0.0	— 0.7	78.1	0.0340	— 5.3
Means.			82.28	0.0659	+ 7.54			81.92	0.0454	+ 0.85			77.93	0.0379	— 3.12

APRIL, 1873.

Date.	27.					28.					29.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	+ 1.7	+ 1.0	79.6	0.0374	— 3.2	+ 5.3	+ 4.4	77.2	0.0428	— 0.3	+ 7.7	+ 6.2	65.5	0.0212	— 1.6
1	3.3	2.7	83.6	.0427	0.4	4.4	3.4	73.9	.0392	— 2.2	7.8	6.1	60.9	.0378	2.9
2	1.1	+ 0.4	79.0	.0361	3.9	7.1	6.1	76.4	.0459	+ 1.2	7.5	6.0	65.2	.0399	— 1.8
3	0.5	± 0.0	84.7	.0376	3.1	7.2	6.1	74.1	.0448	0.7	8.1	6.8	70.5	.0444	+ 0.5
4	2.8	+ 2.3	86.1	.0425	0.5	7.1	6.0	74.0	.0445	0.6	8.6	7.1	66.5	.0427	— 0.4
5	1.5	1.2	91.2	.0424	0.5	7.7	7.0	83.8	.0518	3.9	8.0	6.5	65.8	.0417	1.3
6	3.2	2.0	67.0	.0337	5.4	8.1	7.4	84.1	.0530	4.3	8.2	6.8	68.2	.0432	— 0.1
7	2.7	1.8	74.8	.0367	3.6	7.6	7.0	86.0	.0529	4.3	8.2	7.0	72.8	.0460	+ 1.3
8	1.7	0.7	70.9	.0332	5.6	7.7	7.0	83.8	.0518	3.9	8.3	7.0	70.7	.0449	0.8
9	2.5	1.6	74.6	.0363	3.8	7.6	6.8	81.4	.0501	3.1	8.3	7.0	70.7	.0449	0.8
10	2.0	1.0	71.2	.0339	5.2	8.7	7.8	78.1	.0484	2.3	9.0	7.8	73.5	.0482	2.2
11	2.0	1.1	74.1	.0353	4.4	7.9	6.8	74.8	.0467	1.6	9.8	8.6	74.2	.0505	3.4
Noon.	2.1	0.9	65.7	.0314	6.9	8.2	6.6	63.8	.0405	1.7	10.7	9.4	73.0	.0517	3.7
1h	3.7	2.8	75.8	.0390	2.3	8.7	7.3	68.9	.0446	+ 0.7	10.7	9.7	79.2	.0559	5.6
2	4.8	3.7	71.7	.0388	2.5	9.2	7.5	62.9	.0415	— 1.0	9.7	8.7	78.4	.0531	4.4
3	5.2	4.2	74.6	.0411	1.1	8.7	7.2	66.6	.0429	— 0.3	10.1	9.0	76.7	.0528	4.3
4	5.0	3.8	69.3	.0379	2.9	9.4	8.0	69.6	.0464	+ 1.5	12.3	11.0	74.5	.0565	5.8
5	4.6	3.9	81.1	.0416	1.0	9.6	8.2	69.8	.0470	1.7	13.3	12.0	75.3	.0598	7.0
6	5.5	4.2	67.4	.0377	3.1	10.1	8.6	68.2	.0470	1.5	12.7	11.4	74.8	.0558	6.4
7	5.6	4.3	67.6	.0380	2.9	10.5	9.2	72.8	.0511	3.5	11.7	10.3	71.9	.0531	4.4
8	5.2	3.9	67.0	.0370	3.6	10.9	9.7	75.2	.0536	4.5	11.3	10.0	73.6	.0534	4.5
9	4.7	3.6	71.6	.0386	2.6	9.8	8.4	70.0	.0476	1.9	12.1	11.0	78.3	.0588	6.6
10	4.9	3.7	69.2	.0377	3.1	8.7	7.4	71.1	.0460	1.2	14.5	13.4	79.8	.0670	9.6
11	+ 4.9	+ 3.7	69.2	0.0377	— 3.1	+ 8.1	+ 6.8	70.5	0.0444	+ 0.5	+13.1	+12.2	82.8	.0651	+ 9.0
Means.			74.44	0.0377	— 3.14			74.04	0.0469	+ 1.70			72.62	0.0487	+ 3.02

Date.	APRIL, 1873.					MAY, 1873.									
	30.					1.					2.				
Time.	D.	W.	R. H.	F.V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	+ 8.7	+ 7.8	79.9	0.0517	+ 3.9	+ 5.4	+ 4.2	69.7	0.0388	− 2.5	+ 8.7	+ 7.4	71.1	0.0460	+ 1.2
1	7.6	6.5	74.5	.0459	1.3	3.8	2.5	65.3	.0337	5.4	9.7	8.4	72.0	.0488	2.5
2	7.7	6.5	72.3	.0448	0.7	2.9	1.7	66.7	.0330	5.8	9.7	8.6	76.5	.0517	3.8
3	8.2	7.0	72.8	.0460	1.3	4.7	3.4	66.3	.0358	4.3	10.8	9.7	77.2	.0549	5.2
4	8.1	7.0	75.0	.0472	1.8	5.4	4.1	67.3	.0375	3.3	12.2	11.0	76.3	.0576	6.2
5	8.1	7.0	75.0	.0472	1.8	5.9	4.8	72.8	.0415	1.0	12.7	11.6	78.8	.0607	7.4
6	8.9	7.7	73.4	.0479	2.1	7.3	5.8	61.8	.0394	− 2.1	18.2	16.8	77.3	.0766	12.6
7	10.2	8.8	70.4	.0488	2.5	6.2	4.9	68.3	.0395	+ 2.0	18.4	17.3	82.3	.0825	14.2
8	12.1	10.8	72.7	.0545	4.8	8.9	7.5	69.1	.0450	+ 1.0	18.2	17.0	80.5	.0799	13.4
9	13.4	12.1	75.4	.0602	7.2	10.4	8.5	60.1	.0420	− 0.7	18.2	17.1	82.2	.0816	14.0
10	14.5	13.5	81.7	.0685	9.9	11.7	10.4	74.1	.0546	+ 5.2	18.2	16.9	78.9	.0784	13.0
11	14.5	13.6	83.5	.0700	10.6	11.1	9.4	65.2	.0469	+ 1.6	18.6	17.4	80.7	.0817	13.8
Noon.	14.6	13.6	81.7	.0688	10.0	10.2	8.4	62.0	.0429	− 0.4	18.7	17.8	85.6	.0870	15.3
1h	10.5	9.4	78.9	.0551	5.3	9.2	7.8	69.4	.0458	+ 1.3	19.7	18.5	81.5	.0867	15.3
2	12.2	10.9	74.5	.0562	5.7	9.5	8.2	71.9	.0482	2.2	18.6	17.5	82.5	.0834	14.4
3	14.7	13.6	79.9	.0677	9.8	10.1	8.8	72.4	.0499	3.1	20.2	18.9	80.4	.0874	15.5
4	15.5	14.3	78.8	.0690	10.3	10.9	9.2	65.0	.0463	1.4	18.5	17.4	82.4	.0829	14.3
5	14.4	13.2	77.9	.0651	8.8	9.7	8.3	69.9	.0473	1.8	18.5	17.3	80.7	.0813	13.7
6	12.7	11.6	78.8	.0607	7.4	9.5	8.3	67.9	.0461	1.2	17.7	16.5	80.2	.0777	13.0
7	12.2	11.0	76.3	.0576	6.2	9.4	8.0	69.6	.0464	1.5	18.4	17.3	82.3	.0824	14.2
8	8.4	7.6	81.9	.0523	4.1	8.7	7.4	71.1	.0460	1.2	16.5	15.0	74.5	.0682	9.9
9	8.2	7.0	72.8	.0460	+ 1.3	8.8	7.5	71.2	.0463	1.4	15.9	14.6	77.2	.0691	10.3
10	6.7	5.5	71.2	.0420	− 0.7	9.1	7.7	69.3	.0456	1.2	15.6	14.4	78.8	.0694	10.4
11	+ 6.9	+ 5.5	66.8	0.0398	− 2.0	+ 8.7	+ 7.6	75.4	.0488	+ 2.4	+15.7	+14.8	84.1	0.0746	+ 11.8
Means.			76.09	0.0555	+ 4.75			67.57	0.0436	+ 0.15			79.33	0.0729	+ 11.12

Date.	MAY, 1873.														
	3.					4.					5.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	+17.4	+16.0	76.8	0.0734	+11.6	+11.5	+10.1	71.7	0.0525	+ 4.2	− 0.3	− 1.5	62.5	0.0266	− 10.4
1	18.5	17.4	82.4	.0829	14.3	11.5	10.2	73.9	.0540	4.7	+ 2.7	+ 1.0	65.8	.0316	6.7
2	19.7	18.6	82.5	.0838	14.5	11.6	10.3	74.0	.0543	5.0	3.2	1.6	56.3	.0282	9.1
3	22.5	21.3	83.2	.1003	18.5	12.1	10.8	74.4	.0558	5.6	3.5	1.8	54.2	.0274	9.5
4	22.5	21.3	83.2	.1003	18.5	11.7	10.5	76.0	.0560	5.7	3.7	2.1	57.2	.0294	8.2
5	22.2	20.9	81.7	.0972	17.8	12.5	11.3	76.5	.0587	6.6	5.7	4.3	65.3	.0368	3.7
6	21.5	20.1	79.7	.0920	16.5	12.1	10.8	74.4	.0558	5.6	7.9	6.8	74.8	.0467	+ 1.6
7	20.8	19.6	76.6	.0871	15.3	11.6	10.2	71.8	.0528	4.3	7.1	5.0	53.8	.0321	1.2
8	17.9	16.7	80.3	.0786	13.0	11.3	10.0	73.6	.0534	4.5	7.1	5.1	53.6	.0327	0.9
9	17.7	16.6	81.9	.0794	13.4	11.1	9.8	73.4	.0529	4.3	8.7	7.3	68.9	.0446	+ 0.7
10	17.5	16.3	78.5	.0758	12.2	10.7	9.4	73.0	.0517	3.7	6.5	4.9	61.5	.0360	− 4.0
11	18.5	17.0	76.0	.0764	12.5	10.7	10.6	98.0	.0691	10.3	4.9	3.4	61.7	.0335	5.6
Noon.	18.0	16.9	82.1	.0807	13.7	10.5	9.0	68.7	.0481	2.2	6.0	4.3	58.3	.0332	5.6
1h	17.5	16.5	83.4	.0800	13.6	8.5	7.1	68.6	.0440	+ 0.4	4.8	3.1	56.5	.0305	7.5
2	17.7	16.5	80.2	.0777	13.0	7.7	6.4	69.9	.0433	− 0.2	5.7	4.0	57.9	.0326	6.1
3	17.2	16.2	83.2	.0788	13.2	8.1	6.7	68.1	.0430	− 0.3	6.5	5.0	63.9	.0374	3.2
4	16.9	16.2	88.2	.0824	14.2	8.3	7.1	72.9	.0463	+ 1.4	5.7	4.2	62.7	.0354	4.5
5	16.9	16.2	88.2	.0824	14.2	8.1	7.0	75.0	.0472	1.8	6.9	5.1	57.3	.0341	5.1
6	17.5	16.0	75.3	.0722	11.2	8.0	7.0	77.1	.0483	2.3	7.1	5.5	62.3	.0374	3.1
7	17.0	16.0	83.1	.0780	12.9	6.9	5.8	73.8	.0440	0.4	6.9	5.4	64.3	.0384	2.7
8	15.7	14.8	84.1	.0746	11.8	4.7	3.0	56.3	.0302	+ 7.7	7.5	6.0	65.2	.0399	1.8
9	14.7	13.8	83.6	.0708	10.8	3.5	2.2	64.8	.0330	− 5.9	5.9	4.3	59.6	.0345	5.1
10	13.7	12.8	83.1	.0672	9.6	+ 2.0	+ 0.7	62.9	.0298	8.0	5.5	4.0	62.5	.0349	4.7
11	+13.7	+12.8	83.1	0.0672	+ 9.6	− 1.3	− 2.1	74.6	0.0301	− 7.8	+ 5.5	+ 4.0	62.5	0.0349	− 4.7
Means.			81.68	0.0808	+13.58			73.47	0.0481	+ 2.44			61.19	0.0346	− 4.45

Date.	MAY, 1873.														
	6.					7.					8.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	+3.9	+2.5	62.7	0.0325	−6.2	+5.2	+3.4	54.7	0.0301	−7.9	+0.1	−0.9	69.1	0.0301	−7.8
1	2.8	1.4	61.1	.0301	7.8	5.0	3.3	56.8	.0310	7.2	0.8	−1.2	46.0	.0236	9.5
2	6.7	5.4	68.8	.0407	1.4	4.7	3.0	56.3	.0302	7.7	3.2	+1.4	50.8	.0254	11.2
3	5.5	3.8	57.5	.0320	6.5	6.2	4.5	58.6	.0336	5.3	3.5	1.6	48.7	.0247	11.5
4	4.6	3.1	61.2	.0329	−5.9	7.2	5.5	60.1	.0362	3.8	4.8	3.0	53.9	.0290	8.5
5	10.5	9.0	68.7	.0481	+2.2	9.2	7.1	56.7	.0369	2.0	7.1	4.9	53.7	.0322	5.5
6	8.9	6.5	45.6	.0295	2.3	10.3	8.5	62.2	.0432	−0.3	4.5	2.4	50.0	.0270	−9.4
7	12.8	10.8	62.3	.0490	9.4	11.4	9.5	61.5	.0449	+0.6	7.0	5.0	53.8	.0320	+0.1
8	12.7	10.0	52.1	.0401	6.9	14.1	12.0	63.5	.0522	10.4	9.1	6.9	56.8	.0371	2.2
9	11.6	10.0	70.0	.0512	8.4	16.7	14.5	67.0	.0633	10.9	9.7	7.1	37.7	.0265	+2.6
10	12.2	9.2	41.8	.0311	6.8	14.1	11.1	45.7	.0375	7.9	6.6	4.8	56.8	.0334	−5.7
11	12.6	9.7	43.6	.0339	6.7	13.1	10.2	43.8	.0346	6.9	5.2	3.0	50.1	.0271	1.5
Noon.	10.3	7.7	37.7	.0268	5.2	11.1	8.3	39.8	.0281	6.4	5.7	4.5	70.3	.0396	2.1
1h	9.7	7.6	56.8	.0371	+5.3	8.8	6.5	47.9	.0311	+4.0	4.8	3.0	53.9	.0290	8.5
2	8.3	6.4	57.0	.0360	−3.9	8.1	6.4	61.4	.0387	−2.5	6.9	5.0	54.9	.0327	6.0
3	8.6	7.0	64.3	.0413	1.1	7.6	6.0	63.0	.0387	2.4	4.7	3.0	56.3	.0302	7.7
4	6.9	4.7	53.6	.0323	4.0	6.7	4.9	57.0	.0336	5.5	3.7	2.0	54.5	.0279	9.2
5	4.1	2.3	52.6	.0273	9.6	6.7	4.8	54.5	.0322	6.4	2.7	+1.3	60.9	.0299	8.0
6	5.7	3.7	52.0	.0300	6.0	3.9	2.3	57.6	.0298	7.9	1.7	±0.0	50.9	.0238	12.5
7	4.3	2.2	48.0	.0250	8.1	2.1	+0.5	54.5	.0259	10.8	1.3	−0.2	55.8	.0256	11.1
8	1.7	0.1	53.7	.0251	−11.4	0.7	−0.7	57.6	.0259	11.0	0.2	0.7	72.2	.0317	6.8
9	6.2	5.2	75.6	.0436	+0.2	+0.9	0.4	61.1	.0276	9.6	0.7	0.6	60.8	.0272	9.9
10	7.3	5.3	53.7	.0321	+0.1	±0.0	−1.1	65.8	.0285	8.8	0.3	0.7	69.3	.0305	7.6
11	+6.4	+4.4	51.8	.0299	−0.2	+2.5	+0.8	52.4	0.0254	−11.3	+0.7	−0.5	63.8	0.0285	−8.9
Means.			56.34	0.0349	−0.75			56.64	0.0349	−2.64			56.29	0.0292	−6.83

Date.	MAY, 1873.														
	9.					10.					11.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	+4.7	+3.2	61.4	0.0331	−5.8	+14.6	+13.1	72.9	0.0612	+7.5	+13.1	+11.2	72.0	0.0563	+5.5
1	3.8	2.2	57.4	.0296	8.0	14.6	13.0	72.7	.0609	7.4	12.6	10.6	76.2	.0583	6.2
2	2.7	1.2	58.2	.0286	8.8	14.5	13.2	76.2	.0640	8.4	12.7	11.1	80.3	.0603	7.1
3	1.5	0.1	59.1	.0274	9.7	14.5	13.2	76.2	.0640	8.4	13.0	11.5	71.3	.0557	5.5
4	1.9	0.5	59.8	.0282	9.1	14.0	12.8	77.7	.0637	8.3	13.3	11.9	73.4	.0583	6.5
5	2.1	0.5	54.5	.0259	10.8	14.5	13.4	79.8	.0670	9.6	13.9	12.5	73.8	.0604	7.3
6	3.3	2.0	64.5	.0326	6.2	13.9	12.7	77.7	.0634	8.2	15.2	14.0	78.5	.0679	9.8
7	4.6	3.0	58.7	.0314	6.9	13.5	11.9	69.9	.0560	5.5	14.5	13.0	72.7	.0609	7.4
8	4.2	2.8	63.2	.0332	5.7	13.7	12.3	73.7	.0597	7.1	14.9	13.3	71.3	.0609	7.4
9	4.7	3.0	56.3	.0302	7.7	14.7	13.5	78.2	.0662	9.1	15.7	14.1	72.0	.0637	8.3
10	6.2	4.5	58.6	.0336	5.3	14.7	13.3	74.6	.0632	8.3	17.2	15.4	70.1	.0654	9.1
11	5.7	4.1	59.3	.0340	5.3	14.7	13.5	78.2	.0662	9.1	16.0	14.4	73.2	.0687	9.9
Noon.	5.7	4.1	59.3	.0340	5.3	16.1	14.4	70.7	.0637	8.2	15.1	13.6	73.3	.0628	8.0
1h	6.7	5.0	59.4	.0350	4.6	16.5	14.5	70.5	.0629	8.0	14.5	13.0	72.7	.0609	7.4
2	6.8	5.1	59.5	.0352	4.4	15.7	14.0	70.3	.0621	7.8	14.5	13.1	74.4	.0625	8.0
3	7.1	5.7	67.0	.0403	−1.7	15.7	14.0	70.3	.0621	7.8	14.0	12.7	75.9	.0623	7.9
4	7.1	6.0	74.0	.0445	+0.6	15.4	13.5	66.4	.0580	6.2	14.2	12.9	76.0	.0630	8.1
5	7.7	6.6	74.6	.0461	+1.4	15.5	13.8	70.1	.0613	7.4	13.7	12.8	83.1	.0672	9.6
6	8.4	6.9	66.2	.0223	−0.7	15.7	14.5	78.8	.0698	10.5	13.2	12.2	80.9	.0639	8.5
7	10.5	9.1	70.7	.0496	+2.9	15.8	14.6	78.9	.0701	10.7	13.8	12.5	75.7	.0616	7.7
8	10.9	9.8	77.3	.0552	5.3	14.4	13.2	77.9	.0651	8.8	13.3	12.0	75.3	.0598	7.0
9	11.7	10.1	68.0	.0502	3.1	14.5	13.2	76.2	.0640	8.4	12.7	11.3	72.8	.0562	5.8
10	11.7	10.5	76.0	.0560	5.7	13.7	12.0	68.3	.0551	5.2	12.5	11.2	74.7	.0571	6.2
11	+10.1	+8.7	70.3	0.0485	+2.4	+13.5	+11.8	68.0	0.0543	+4.8	+12.5	+11.2	74.7	0.0571	+6.2
Means.			63.89	0.0369	−3.52			73.92	0.0627	+7.95			74.76	0.0613	+7.58

MAY, 1873.

Date.	12.					13.					14.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°
0h	+12.5	+10.8	66.8	0.0511	+ 3.6	+ 8.6	+ 6.8	59.8	0.0384	− 2.5	+17.8	+16.9	85.1	0.0830	+11.3
1	12.3	10.4	62.7	.0476	2.0	9.8	8.0	61.4	.0417	− 0.8	16.7	15.4	77.8	.0722	11.3
2	12.5	10.5	65.3	.0503	3.2	11.7	9.7	67.7	.0459	+ 2.1	16.9	15.7	79.7	.0715	12.1
3	12.6	11.0	69.0	.0530	4.4	9.7	8.5	74.1	.0502	3.3	16.9	15.7	79.7	.0715	12.1
4	12.7	11.3	72.8	.0562	5.8	11.5	10.2	73.9	.0540	4.7	17.0	15.8	79.7	.0749	12.2
5	13.1	11.8	75.1	.0592	6.8	11.6	10.0	72.7	.0550	5.2	16.4	15.0	75.9	.0694	10.3
6	13.3	12.0	75.3	.0598	7.0	13.1	11.6	71.4	.0560	5.7	18.2	16.8	77.3	.0766	12.6
7	13.5	12.4	79.3	.0635	8.2	13.3	12.2	79.2	.0628	8.0	20.8	19.2	76.1	.0853	14.9
8	14.7	13.2	73.0	.0615	7.6	16.5	14.9	72.8	.0668	9.3	22.1	20.4	75.9	.0910	16.6
9	15.6	14.3	77.0	.0680	10.9	18.3	16.4	69.5	.0692	10.2	24.7	22.9	76.7	.1018	18.7
10	15.7	14.2	73.7	.0652	8.8	16.4	14.3	69.2	.0680	9.8	25.5	23.5	76.3	.0995	18.2
11	18.0	16.5	75.8	.0742	11.7	17.7	15.8	68.9	.0668	9.3	23.9	22.1	75.9	.0975	17.8
Noon.	18.3	16.1	73.5	.0720	10.7	20.5	17.0	69.8	.0747	11.6	24.0	22.2	76.0	.0980	17.9
1h	17.5	15.2	71.3	.0698	10.3	21.1	18.9	71.9	.0781	12.8	24.0	22.1	74.8	.0962	17.5
2	17.9	16.0	69.1	.0676	9.7	21.3	19.2	73.9	.0803	13.4	25.7	23.9	77.3	.1072	19.8
3	18.6	17.0	74.5	.0753	12.1	20.2	18.6	75.9	.0826	14.0	23.9	22.4	80.0	.1025	18.9
4	18.5	16.6	69.7	.0700	10.4	19.4	18.1	79.7	.0837	14.5	25.4	23.8	79.6	.1089	20.2
5	17.9	16.0	69.1	.0676	9.7	18.7	17.7	84.0	.0854	15.0	26.8	25.8	87.7	.1277	23.8
6	17.4	15.7	72.0	.0687	9.9	19.8	18.7	83.2	.0888	15.7	26.6	25.2	82.8	.1195	22.3
7	15.7	14.0	70.3	.0621	7.8	20.4	19.4	84.9	.0932	16.8	25.7	21.7	87.3	.1212	22.6
8	10.2	9.1	76.8	.0531	4.4	20.4	19.5	86.4	.0949	17.3	25.7	24.6	86.0	.1195	22.3
9	8.8	7.5	71.2	.0463	+ 1.4	19.7	18.8	86.1	.0916	16.5	31.3	30.0	86.1	.1514	27.8
10	6.9	5.0	54.9	.0327	− 6.0	19.7	18.8	86.1	.0916	16.5	31.4	30.0	85.1	.1502	27.6
11	+ 8.1	+ 6.3	59.1	0.0372	− 3.3	+19.7	+18.8	86.1	0.0916	+16.5	+28.7	+27.5	86.1	0.1382	+25.3
Means.			70.72	0.0597	+ 5.56			75.34	0.0711	+10.20			80.22	0.0985	+18.19

MAY, 1873.

Date.	15.					16.					17.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°	°	°	*p. c.*	*Inches.*	°
0h	+26.9	+25.8	86.1	0.1206	+22.7	+25.2	+24.0	84.5	0.1148	+21.4	+21.0	+20.3	89.7	0.1012	+18.6
1	30.7	29.4	85.9	.1473	27.2	26.8	25.7	86.6	.1260	23.5	20.7	20.2	92.5	.1030	19.0
2	31.4	29.9	84.1	.1484	27.2	26.6	25.4	85.2	.1230	23.0	23.7	23.0	90.6	.1152	21.5
3	31.3	30.0	86.1	.1514	27.8	28.1	27.1	88.3	.1356	25.2	22.7	21.9	88.9	.1081	20.1
4	31.2	29.6	82.9	.1451	26.7	27.5	26.3	85.6	.1284	24.0	20.7	20.0	89.6	.0997	18.3
5	31.7	30.1	83.1	.1485	27.3	26.5	25.5	87.6	.1259	23.5	21.7	21.0	89.9	.1046	19.4
6	31.7	30.2	84.2	.1504	27.6	27.7	26.3	83.4	.1261	23.5	24.7	23.2	80.5	.1069	19.8
7	30.1	28.7	84.6	.1415	26.2	31.5	29.9	83.0	.1472	27.0	22.9	21.6	82.0	.1007	18.6
8	29.2	28.0	86.3	.1391	25.8	31.6	29.9	82.0	.1460	26.8	28.7	26.5	80.0	.0987	18.1
9	28.6	27.2	83.8	.1317	24.5	35.1	33.1	81.9	.1446	26.6	23.1	21.5	78.0	.0967	17.6
10	30.7	29.3	84.8	.1455	26.9	31.2	29.5	81.8	.1432	26.4	23.7	22.3	81.2	.1033	19.1
11	28.1	27.0	87.1	.1339	24.9	33.2	31.2	84.1	.1501	27.5	27.1	25.4	79.6	.1171	21.8
Noon.	28.4	27.2	86.0	.1376	25.0	32.1	30.8	86.4	.1570	28.6	26.9	25.0	77.1	.1123	20.9
1h	27.7	26.7	88.1	.1331	24.7	33.5	31.8	82.9	.1595	29.0	25.7	24.8	88.6	.1230	22.9
2	27.6	26.8	90.5	.1360	25.3	32.7	31.7	89.7	.1672	30.1	25.2	21.1	85.8	.1166	21.7
3	27.9	27.0	89.4	.1362	25.3	33.4	32.3	92.7	.1718	30.7	25.2	21.0	81.5	.1148	21.4
4	28.0	27.1	89.4	.1368	25.4	33.4	32.2	94.2	.1741	31.1	20.0	19.0	84.7	.0913	16.4
5	27.9	26.9	88.2	.1343	25.0	32.4	32.0	95.8	.1764	31.4	21.1	20.1	85.2	.0936	17.6
6	30.3	28.9	84.7	.1428	26.4	31.6	30.4	87.3	.1554	28.4	19.9	18.8	83.2	.0892	15.8
7	29.9	28.5	84.5	.1401	26.0	29.7	29.0	92.1	.1515	27.8	23.7	22.8	87.8	.1118	20.8
8	28.9	27.9	88.5	.1407	26.0	28.7	27.7	88.4	.1394	25.8	22.1	21.2	87.2	.1033	19.2
9	29.5	28.3	86.4	.1411	26.1	27.6	26.3	84.5	.1268	23.7	21.6	20.6	85.5	.0991	18.2
10	29.2	27.9	85.3	.1374	25.5	26.4	25.7	91.4	.1306	24.3	21.3	20.5	88.3	.1010	18.4
11	+27.0	+26.0	87.8	0.1289	+24.0	+25.0	+24.2	89.6	0.1207	+22.5	+21.2	+20.3	86.8	0.0988	+18.2
Means.			86.16	0.1395	+25.81			87.04	0.1434	+26.23			81.96	0.1047	+19.31

Date.	MAY, 1873.														
	18.					19.					20.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	+23.5	+22.4	85.0	0.1072	+20.0	+22.3	+21.5	88.8	0.1060	+19.8	+24.5	+23.1	81.6	0.1076	+20.0
1	23.5	22.2	82.3	.1034	19.1	24.7	23.8	88.2	.1173	21.8	25.5	24.2	83.4	.1148	21.4
2	21.9	20.6	81.5	.0957	17.3	26.3	24.4	76.6	.1090	20.2	27.5	26.0	82.1	.1230	22.9
3	21.7	20.0	75.5	.0880	15.6	28.7	27.2	82.7	.1394	24.3	21.7	20.2	78.3	.0917	16.3
4	25.7	24.1	79.8	.1107	20.6	31.7	30.0	82.1	.1466	27.0	23.7	22.1	78.3	.0998	18.3
5	22.7	21.6	84.7	.1030	19.1	33.7	32.0	82.9	.1610	29.2	28.2	26.0	79.3	.1028	18.9
6	25.3	24.0	83.3	.1137	21.2	31.9	30.0	80.0	.1443	26.6	24.5	23.0	80.3	.1059	19.6
7	25.7	24.2	81.1	.1121	20.9	31.5	30.0	84.1	.1490	27.4	23.7	22.6	85.1	.1083	20.2
8	29.5	28.0	83.1	.1355	25.2	32.2	29.9	79.5	.1443	27.2	24.2	23.0	81.0	.1093	20.3
9	32.7	31.0	82.6	.1538	28.1	31.0	29.0	78.8	.1370	28.3	24.2	23.0	84.0	.1093	20.3
10	29.0	26.8	80.0	.1175	25.0	30.5	28.1	73.3	.1251	26.9	24.5	23.5	86.8	.1145	21.3
11	30.2	28.0	78.2	.1300	27.2	32.5	31.0	84.5	.1562	28.5	25.5	23.5	82.1	.1108	20.5
Noon.	31.5	29.4	78.8	.1371	28.3	32.5	30.7	81.5	.1504	27.5	25.7	23.9	77.3	.1072	19.8
1h	34.7	32.6	79.5	.1621	31.0	26.6	21.8	78.1	.1125	20.8	26.3	25.0	83.9	.1195	22.3
2	33.3	31.2	80.0	.1517	28.7	26.5	21.8	79.2	.1137	21.0	25.1	21.9	85.0	.1200	22.4
3	30.7	29.0	81.5	.1397	25.9	25.9	21.3	80.0	.1119	20.8	26.7	25.4	84.1	.1219	22.7
4	30.7	28.4	78.2	.1305	27.5	25.7	23.9	77.3	.1072	19.8	29.3	25.4	83.3	.1192	22.2
5	29.9	27.8	78.5	.1317	27.2	26.0	24.1	76.3	.1072	19.9	26.1	24.7	82.6	.1165	21.8
6	29.7	28.0	81.0	.1332	24.8	26.0	24.1	76.3	.1072	19.9	25.7	24.7	87.3	.1212	22.6
7	29.3	27.4	78.6	.1269	23.6	26.9	24.6	74.1	.1041	22.8	26.2	25.0	85.0	.1206	22.5
8	26.0	25.0	87.4	.1229	22.9	27.1	25.0	76.1	.1120	23.9	25.7	24.6	85.4	.1189	22.1
9	26.2	25.2	87.4	.1241	23.2	25.6	24.4	76.4	.1051	22.7	25.3	24.2	85.8	.1172	21.8
10	25.5	24.0	80.0	.1113	20.7	25.7	24.0	78.5	.1090	20.2	26.1	25.4	91.3	.1288	24.0
11	+23.8	+23.0	89.2	0.1140	+21.2	+24.3	+22.8	80.2	0.1048	+19.3	+25.9	+24.5	82.5	0.1154	+51.6
Means.			81.59	0.1228	+23.51			78.56	0.1243	+23.57			82.87	0.1135	+21.08

Date.	MAY, 1873.														
	21.					22.					23.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	+25.7	+24.4	83.6	0.1159	+21.6	+28.7	+24.3	49.6	0.0775	+21.7	+25.7	+24.2	81.1	0.1124	+20.9
1	24.5	23.1	81.4	.1075	20.0	28.7	25.2	65.5	.1000	21.8	27.9	25.5	70.9	.1123	23.9
2	24.7	23.5	84.3	.1116	20.9	29.4	26.5	67.5	.1131	25.3	29.5	27.3	77.4	.1239	26.1
3	26.2	25.0	85.0	.1206	22.5	31.0	28.5	74.0	.1311	26.4	28.8	27.0	79.5	.1257	23.4
4	24.6	23.5	85.6	.1132	21.1	35.2	33.8	84.6	.1761	32.4	26.7	25.3	82.9	.1201	22.4
5	23.7	22.4	82.5	.1050	19.4	33.5	32.8	91.6	.1822	31.3	23.5	22.0	79.6	.1005	18.5
6	23.9	22.9	86.6	.1112	20.7	33.5	30.2	79.8	.1339	25.3	22.1	20.9	82.9	.0983	17.9
7	28.8	26.6	77.5	.1240	26.1	32.5	29.3	69.4	.1265	27.9	24.2	22.8	81.5	.1059	19.6
8	29.2	27.2	77.3	.1239	26.5	33.2	29.9	70.2	.1321	27.8	21.9	20.7	82.8	.0973	17.7
9	26.1	24.5	80.1	.1131	21.0	33.1	30.2	70.1	.1319	24.6	22.1	20.9	82.9	.0983	17.9
10	26.5	24.4	75.4	.1061	22.8	31.7	28.8	69.4	.1265	26.8	22.6	21.3	81.9	.0992	18.2
11	28.4	26.0	71.6	.1121	24.9	33.7	32.0	82.9	.1610	29.2	23.5	22.0	79.6	.1005	18.5
Noon.	29.0	26.7	72.5	.1181	26.5	33.5	30.9	71.0	.1392	27.8	27.7	25.8	77.5	.1171	21.8
1h	29.0	27.1	78.5	.1251	23.3	34.5	32.0	69.8	.1423	28.9	29.2	27.4	79.7	.1281	23.8
2	27.7	26.4	81.5	.1279	23.8	31.6	30.0	83.1	.1478	27.2	29.7	28.1	82.1	.1351	25.1
3	28.5	27.0	82.7	.1292	24.1	30.5	28.2	73.3	.1255	27.2	26.5	24.7	78.1	.1120	20.7
4	26.1	24.8	83.8	.1182	22.1	31.7	30.2	84.2	.1504	27.6	25.7	23.8	76.1	.1054	19.4
5	26.7	25.0	79.3	.1147	21.4	28.7	27.1	81.6	.1287	24.0	25.9	23.7	75.3	.1060	22.8
6	25.5	24.4	85.9	.1183	22.1	30.0	27.7	73.2	.1251	27.3	24.7	23.4	83.0	.1104	20.5
7	25.7	24.2	81.7	.1182	22.0	29.4	27.0	72.5	.1182	26.4	25.5	24.0	80.9	.1113	20.7
8	26.0	24.5	81.2	.1142	21.2	29.5	27.0	72.5	.1180	26.5	23.7	22.8	87.8	.1118	20.8
9	24.7	23.0	77.9	.1035	19.1	28.7	25.4	71.6	.1123	25.0	23.5	21.8	76.9	.0970	17.6
10	24.7	23.5	84.3	.1116	20.9	29.7	28.1	82.1	.1351	25.1	24.1	22.2	74.9	.0967	17.6
11	+26.1	+24.8	83.8	0.1182	+22.1	+28.8	+26.5	72.3	0.1179	+25.1	+22.9	+21.4	79.3	0.0975	+17.9
			80.71	0.1159	+22.31			74.45	0.1314	+26.61			79.77	0.1093	+20.57

MAY, 1873.

Date.	24.					25.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	
0h	+22.1	+21.0	84.4	0.1000	+18.4	+21.9	+21.0	87.1	0.1023	+18.9
1	22.6	21.4	83.2	.1008	18.6	23.0	21.4	78.0	.0962	17.5
2	24.4	23.2	84.1	.1104	20.5	21.9	23.5	81.8	.1097	20.4
3	24.6	22.9	77.8	.1030	19.0	24.5	23.7	89.5	.1178	22.0
4	23.7	22.0	77.1	.0981	18.0	21.5	23.8	90.8	.1196	22.3
5	24.5	23.0	80.3	.1059	19.6	24.3	23.0	82.8	.1082	20.1
6	23.1	21.6	79.4	.0985	18.1	23.5	22.5	86.4	.1090	20.3
7	25.1	22.9	74.6	.1011	21.8	24.5	23.6	88.1	.1162	21.6
8	26.5	23.8	64.4	.0951	22.2	22.3	21.6	90.2	.1076	20.0
9	26.6	25.0	80.4	.1158	21.6	23.1	21.8	82.1	.1017	18.8
10	24.7	22.7	74.5	.1001	21.7	22.5	21.2	81.8	.0987	18.1
11	24.5	22.8	74.2	.1007	21.6	24.1	22.8	82.7	.1071	19.8
Noon.	24.5	23.0	80.3	.1059	19.6	23.5	22.2	82.3	.1039	19.2
1h	25.5	23.8	78.4	.1079	19.9	23.1	22.1	86.2	.1069	19.9
2	25.9	24.5	82.5	.1154	21.6	22.8	21.9	87.6	.1069	19.9
3	24.4	23.7	90.8	.1191	22.2	24.0	22.7	82.7	.1065	19.7
4	24.1	22.7	81.4	.1054	19.5	23.9	22.7	83.9	.1077	20.0
5	24.4	22.0	78.3	.0993	18.2	22.8	21.7	84.8	.1035	19.2
6	24.7	22.1	63.1	.0846	20.0	23.7	22.5	83.8	.1066	19.7
7	23.7	22.1	78.3	.0998	18.3	24.7	22.3	68.0	.0891	19.9
8	22.2	21.5	90.2	.1071	19.9	24.1	22.0	69.1	.0899	19.8
9	22.2	21.4	88.7	.1054	19.7	23.9	21.7	73.8	.0951	19.6
10	22.7	22.0	90.3	.1098	20.4	24.1	22.0	73.6	.0949	19.3
11	+22.2	+21.4	88.7	0.1054	+19.7	+23.8	+22.2	78.4	0.1003	+18.4
Means.			80.22	0.1039	+20.02			82.73	0.1044	+19.75

MAY, 1873.

Date.	26.					27.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	
0h	+25.7	+22.5	63.4	0.0899	+19.4	+25.0	+23.2	76.9	0.1034	+19.1
1	25.4	22.5	63.0	.0892	19.1	26.1	24.0	75.4	.1061	22.6
2	25.7	23.5	75.4	.1061	21.6	24.5	23.4	85.5	.1127	21.0
3	27.0	25.2	78.4	.1147	21.3	26.1	24.2	76.4	.1078	20.0
4	23.7	22.3	81.2	.1032	19.1	30.1	29.3	91.1	.1524	27.9
5	25.9	23.1	63.3	.0899	20.9	32.2	29.8	74.8	.1389	29.2
6	25.4	23.1	74.5	.1002	20.6	30.7	29.1	82.6	.1416	26.2
7	25.2	23.0	74.6	.1000	21.5	31.7	29.6	79.4	.1444	29.7
8	24.5	23.0	80.3	.1059	19.6	33.1	30.8	75.6	.1458	27.8
9	23.5	22.0	79.6	.1005	18.5	31.2	29.8	85.0	.1490	27.4
10	23.2	22.0	83.5	.1039	19.2	30.0	27.5	73.3	.1250	26.9
11	23.5	22.0	79.6	.1005	18.5	24.5	22.5	73.9	.0998	21.8
Noon.	23.4	22.1	82.3	.1033	19.1	28.0	26.3	80.2	.1224	22.8
1h	23.7	22.1	78.3	.0998	18.3	25.9	24.1	77.5	.1084	20.1
2	24.3	22.6	77.5	.1012	18.6	28.7	26.5	77.4	.1244	25.9
3	25.4	23.5	75.9	.1037	19.1	27.7	26.0	79.9	.1206	22.5
4	25.2	23.6	79.5	.1078	20.0	25.7	24.3	82.9	.1201	22.4
5	25.6	24.0	79.7	.1101	20.5	24.7	23.6	85.6	.1138	21.2
6	25.9	24.3	80.0	.1119	20.8	24.7	23.7	86.9	.1155	21.5
7	26.0	24.3	78.7	.1108	20.5	24.7	23.7	86.9	.1155	21.5
8	26.2	24.3	76.5	.1084	20.1	25.3	24.5	89.8	.1224	22.8
9	25.7	24.0	78.5	.1090	20.2	23.9	23.0	87.9	.1129	21.0
10	25.2	23.7	80.7	.1095	20.3	23.2	22.3	85.4	.1078	20.4
11	+25.7	+23.7	78.8	0.1064	+19.7	+22.6	+21.7	87.5	0.1059	+19.7
Means.			76.80	0.1036	+19.86			81.62	0.1215	+23.39

Date.	MAY, 1873.									
	28.					29.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	+21.4	+20.5	86.9	0.0998	+18.4	+20.8	+19.0	73.4	0.0820	+14.0
1	22.2	21.1	84.5	.1005	18.5	19.1	17.4	77.6	.0792	13.2
2	25.7	24.5	84.8	.1175	22.0	18.8	17.2	74.7	.0761	12.3
3	29.3	27.5	78.9	.1297	27.3	18.8	17.0	71.5	.0729	11.4
4	31.1	29.0	78.8	.1370	28.4	18.7	17.0	73.0	.0741	11.8
5	31.8	30.3	84.3	.1511	27.7	18.5	17.0	76.0	.0764	12.5
6	26.1	24.6	84.3	.1148	21.3	19.1	17.8	79.5	.0823	14.0
7	26.5	24.2	74.9	.1033	22.6	18.7	17.3	77.6	.0790	13.1
8	24.2	22.8	81.4	.1059	19.6	17.7	16.0	72.2	.0699	10.5
9	23.5	22.0	79.6	.1005	18.5	17.2	15.7	75.0	.0712	10.7
10	23.5	22.0	79.6	.1005	18.5	16.5	15.0	74.5	.0682	9.9
11	22.5	21.0	79.0	.0954	17.5	17.0	15.2	69.9	.0656	8.9
Noon.	23.0	21.5	79.3	.0980	18.0	17.7	16.1	73.8	.0715	11.0
1h	22.8	21.2	77.9	.0952	17.3	18.2	16.4	71.0	.0704	10.7
2	22.5	21.2	81.8	.0987	18.1	17.7	16.4	78.5	.0762	12.3
3	22.7	21.4	81.9	.0997	18.3	17.5	15.7	70.4	.0676	9.5
4	22.0	20.5	78.6	.0932	16.6	17.7	16.2	75.5	.0730	11.4
5	22.1	20.8	81.6	.0967	17.6	17.7	16.4	78.6	.0762	12.3
6	21.9	20.7	82.9	.0973	17.7	17.5	16.3	80.0	.0769	12.8
7	22.0	20.7	81.6	.0962	17.5	16.9	15.0	68.1	.0636	8.3
8	21.4	20.0	79.6	.0915	16.4	17.5	16.4	81.7	.0785	13.1
9	20.0	18.5	77.1	.0833	14.2	17.2	16.2	83.2	.0788	13.2
10	19.8	18.4	78.4	.0839	14.6	16.8	15.1	71.4	.0663	9.2
11	+18.7	+17.3	77.6	0.0790	+13.1	+16.4	+15.0	75.9	0.0694	+10.3
Means.			80.22	0.1029	+19.16			75.12	0.0736	+11.52

Date.	MAY, 1873.									
	30.					31.				
Time.	D.	W.	R. H.	F. V.	D. P.	D.	W.	R. H.	F. V.	D. P.
	°	°	p. c.	Inches.	°	°	°	p. c.	Inches.	°
0h	+16.5	+14.8	71.1	0.0653	+ 8.7	+13.0	+11.5	71.3	0.0557	+ 5.5
1	16.5	14.9	72.8	.0668	9.3	13.0	11.6	73.1	.0572	6.0
2	16.7	15.3	76.2	.0706	10.8	13.2	12.0	77.1	.0609	7.4
3	17.2	16.0	79.8	.0757	12.5	13.2	12.0	77.1	.0609	7.4
4	16.7	15.0	71.3	.0659	9.1	11.7	10.0	66.0	.0487	2.5
5	16.7	14.8	67.8	.0630	7.9	11.5	9.1	66.2	.0494	2.8
6	17.1	15.3	70.0	.0660	9.0	12.2	10.5	66.5	.0502	3.1
7	16.7	14.8	67.8	.0630	7.9	14.5	13.0	72.7	.0609	7.4
8	16.2	14.8	75.7	.0687	10.0	14.2	12.8	74.1	.0614	7.6
9	15.5	14.0	73.5	.0644	8.6	14.2	13.0	77.8	.0644	8.6
10	14.9	13.6	76.5	.0654	8.8	13.7	12.0	68.3	.0551	5.2
11	15.2	13.0	71.4	.0600	6.5	14.3	13.0	76.1	.0633	8.2
Noon.	14.5	12.6	65.3	.0547	5.1	15.2	13.0	71.1	.0603	7.1
1h	14.6	13.0	71.0	.0597	7.0	15.2	13.3	66.2	.0573	6.0
2	14.7	13.2	73.0	.0615	7.6	15.6	14.0	71.9	.0633	8.2
3	14.5	13.0	72.7	.0609	7.4	15.7	14.2	73.7	.0652	8.8
4	14.1	12.2	64.9	.0533	4.6	16.1	13.8	70.7	.0626	8.0
5	13.9	12.3	70.3	.0573	6.0	16.1	14.2	67.2	.0606	7.2
6	13.7	11.5	67.3	.0546	5.1	16.4	14.8	72.7	.0665	9.1
7	13.7	11.8	64.3	.0520	3.7	16.5	15.0	74.5	.0682	9.9
8	13.6	11.5	64.9	.0517	3.6	16.2	14.7	74.2	.0672	9.3
9	13.1	11.3	65.7	.0515	3.7	15.2	14.1	80.3	.0695	10.3
10	12.7	11.0	67.2	.0518	3.9	15.2	12.3	47.5	.0419	9.6
11	+12.7	+11.2	71.0	0.0547	+ 5.1	+15.5	+13.2	56.8	0.0501	+11.1
Means.			70.48	0.0607	+ 7.16			70.54	0.0592	+ 7.35

FORCE OF VAPOR.

The two following tables contain the daily and hourly means of the force of vapor, extracted from the preceding record:

Daily means of force of vapor observed at Polaris House.

Day of month.	1872.		1873.				
	November.	December.	January.	February.	March.	April.	May.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
1	0.0288	0.0135	0.0042	0.0033	0.0102	0.0044	0.0436
2	.0623	.0141	.0029	.0074	.0036	.0057	.0729
3	.0877	.0136	.0026	.0096	.0024	.0077	.0808
4	.0800	.0205	.0028	.0116	.0030	.0064	.0481
5	.0513	.0195	.0099	.0243	.0034	.0104	.0346
6	.0354	.0163	.0056	.0113	.0048	.0099	.0349
7	.0356	.0228	.0136	.0131	.0046	.0150	.0349
8	.0292	.0448	.0141	.0095	.0074	.0159	.0292
9	.0314	.0226	.0103	.0112	.0124	.0135	.0369
10	.0249	.0147	.0114	.0072	.0080	.0230	.0627
11	.0171	.0166	.0035	.0120	.0076	.0310	.0613
12	.0149	.0142	.0028	.0063	.0128	.0256	.0597
13	.0548	.0098	.0030	.0024	.0058	.0328	.0711
14	.0597	.0136	.0026	.0028	.0056	.0561	.0985
15	.0472	.0183	.0028	.0037	.0066	.0515	.1395
16	.0467	.0201	.0034	.0034	.0087	.0293	.1434
17	.0239	.0206	.0019	.0031	.0096	.0275	.1047
18	.0125	.0259	.0034	.0026	.0045	.0286	.1228
19	.0123	.0247	.0029	.0024	.0104	.0285	.1243
20	.0199	.0261	.0046	.0019	.0160	.0486	.1135
21	.0239	.0239	.0025	.0025	.0117	.0342	.1159
22	.0396	.0404	.0030	.0043	.0062	.0305	.1314
23	.0341	.0419	.0015	.0132	.0051	.0248	.1093
24	.0248	.0399	.0020	.0153	.0127	.0659	.1039
25	.0257	.0433	.0027	.0056	.0064	.0454	.1044
26	.0258	.0226	.0024	.0046	.0049	.0379	.1026
27	.0271	.0222	.0053	.0042	.0047	.0377	.1215
28	.0208	.0173	.0043	0.0082	.0030	.0469	.1029
29	.0173	.0089	.0035	....	.0038	.0487	.0736
30	0.0407	.0069	.0045	....	.0026	0.0555	.0607
31	....	0.0035	0.0082	....	0.0020	....	0.0592
Means.	0.03413	0.02123	0.00471	0.00739	0.00676	0.02994	0.08412

Hourly means of force of vapor observed at Polaris House.

0h	0.03427	0.02336	0.00503	0.00695	0.00634	0.02356	0.07467
1	.02402	.02319	.00484	.00653	.00626	.02407	.07657
2	.03103	.02181	.00473	.00716	.00523	.02492	.08057
3	.03355	.02282	.00479	.00700	.00559	.02617	.08269
4	.03203	.02303	.00493	.00739	.00663	.02540	.08558
5	.03432	.02186	.00468	.00731	.00668	.02709	.08598
6	.03447	.02632	.00462	.00744	.00609	.02828	.08457
7	.03465	.02160	.00475	.00771	.00653	.02996	.08594
8	.03574	.02233	.00532	.00736	.00692	.03241	.08638
9	.03521	.02188	.00509	.00791	.00674	.03412	.08789
10	.03517	.02268	.00542	.00777	.00718	.03323	.08685
11	.03580	.02024	.00501	.00828	.00782	.03372	.08628
Noon.	.03579	.02146	.00465	.00757	.00812	.03402	.08669
1h	.03571	.02116	.00469	.00741	.00826	.03452	.08703
2	.03535	.02085	.00453	.00730	.00808	.03513	.08682
3	.03546	.02188	.00463	.00728	.00756	.03476	.08823
4	.03555	.02054	.00463	.00760	.00767	.03378	.08621
5	.03529	.02009	.00452	.00724	.00751	.03276	.08602
6	.03413	.02010	.00449	.00783	.00696	.03073	.08433
7	.03521	.01988	.00428	.00836	.00646	.02947	.08457
8	.03519	.01955	.00428	.00719	.00624	.02875	.08313
9	.03430	.02068	.00414	.00688	.00608	.02702	.08205
10	.03289	.02136	.00459	.00698	.00561	.02755	.08091
11	0.03299	0.02095	0.00454	0.00708	0.00528	0.02691	0.07915
Means.	0.03413	0.02123	0.00471	0.00739	0.00676	0.02994	0.08412

ANNUAL FLUCTUATION OF THE FORCE OF VAPOR AT POLARIS HOUSE.

As our observations taken at Polaris House extend over seven months only, we submitted six of the same to analytical treatment to obtain the annual fluctuation of the force of vapor during the winter-half-year.

The analytical elements and expression used are as follows:

n	a_n	b_n	B_n	C_n
				° ′ ″
1	+ 0.0326	− 0.0029	+ 0.0328	95 6 54
2	− 0.0201	− 0.0018	+ 0.0201	95 3 46
3	+ 0.0123	± 0.0000	+ 0.0123	90 0 00

$$F = +0.0259 + 0.0328 \sin(x + 95^\circ\ 6'\ 54'') + 0.0201 \sin(2x + 95^\circ\ 3'\ 46'') + 0.0123 \sin(3x + 90^\circ\ 0'\ 00'')$$
$$x = 60^\circ, 120^\circ, \ldots\ldots$$

By means of the above expression the following values were obtained, given with their corresponding equi-intervals in the annexed table:

Months and seasons.	Observed.	Computed.	Difference, O.—C.
	Inches.	*Inches.*	*Inches.*
December, 1872	0.0220	0.0118	+ 0.0102
January, 1873	0.0047	0.0170	− 0.0123
February	0.0073	0.0110	0.0037
March	0.0067	0.0171	− 0.0104
April	0.0302	0.0179	+ 0.0123
May	0.0848	0.0809	+ 0.0039
Mean	0.0259	0.0259	± 0.0000
Winter	0.0113	0.0133	− 0.0020
Spring	0.0406	0.0386	+ 0.0020

Probable error of any single representation = 0.0069
Probable error of mean .... = 0.0012

It will be seen that during the winter-half-year the force of vapor is above the mean during April and May, while it is below the same during the four remaining months. The observed minimum occurs in January, while the computed curve passes through the minimum in February, or, rather, about the 20th of January. An examination of the thermal curve during the winter-half-year shows that January was the coldest month, although the computed curve reaches the minimum in February, so that the thermal and hygrometrical curves are in conformity.

The values observed at Polaris Bay and Polaris House during the winter-half-year compare as follows:

	December.	January.	February.	March.	April.	May.	Winter.	Spring.	Mean.
Polaris House	0.0220	0.0047	0.0073	0.0067	0.0302	0.0848	0.0113	0.0406	0.0259
Polaris Bay	0.0137	0.0088	0.0086	0.0098	0.0279	0.0865	0.0103	0.0414	0.02585

During February, March, and May the force of vapor was greater at Polaris Bay than at Polaris House. This was also the case during spring; while during winter and the three remaining months it was greater at Polaris House than at Polaris Bay.

DIURNAL FLUCTUATION OF THE FORCE OF VAPOR AT POLARIS HOUSE.

In the analytical treatment of the diurnal fluctuation during the winter-half-year the following elements and expression were used:

n	a_n	b_n	B_n	C_n
				° ′ ″
1	— 0. 00170	— 0. 00040	+ 0. 0015	257 19 29
2	— 0. 00030	— 0. 00010	+ 0. 0003	256 21 30
3	+ 0. 00002	— 0. 00010	+ 0. 0001	169 11 33

$$F = 0.0258 + 0.0015 \sin(x + 257^\circ\ 19'\ 29'') + 0.0003 \sin(2x + 256^\circ\ 21'\ 30'') + 0.0001 \sin(3x + 169^\circ\ 11'\ 33'')$$
$$x = 15^\circ, 30^\circ, \ldots .$$

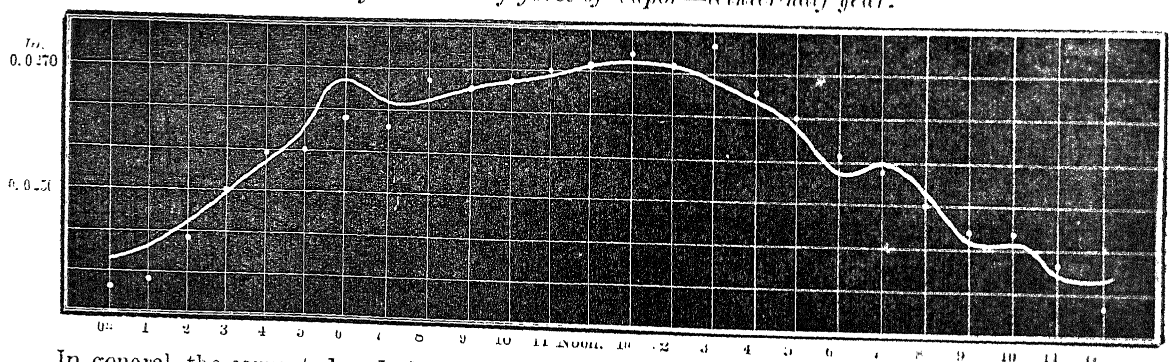
By means of the above expression the following values were obtained:

Time.	Observed.	Computed.	Difference, O.—C.	Time.	Observed.	Computed.	Difference, O.—C.
	Inches.	*Inches.*	*Inches.*		*Inches.*	*Inches.*	*Inches.*
0^h	0. 0233	0. 0239	—0. 0006	Noon.	0. 0271	0. 0271	±0. 0000
1	. 0236	. 0241	. 0005	1^h	. 0272	. 0271	+ . 0001
2	. 0242	. 0244	— . 0002	2	. 0271	. 0271	± . 0000
3	. 0249	. 0249	± . 0000	3	. 0274	. 0269	+ . 0005
4	. 0255	. 0254	+ . 0001	4	. 0267	. 0266	. 0001
5	. 0256	. 0259	— . 0003	5	. 0264	. 0263	. 0001
6	. 0262	. 0268	0006	6	. 0257	. 0254	+ . 0003
7	. 0261	. 0264	— . 0003	7	. 0255	. 0256	. 0001
8	. 0268	. 0265	+ . 0003	8	. 0249	. 0251	. 0002
9	. 0273	. 0267	. 0006	9	. 0245	. 0244	+ . 0001
10	. 0272	. 0268	+ . 0004	10	. 0245	. 0244	. 0001
11	0. 0269	0. 0269	±0. 0000	11	0. 0240	0. 0239	+ 0. 0001

Mean = 0.0258; difference = ± 0.0000.

resulting in the annexed diagram.

Diurnal fluctuation of force of vapor—winter half year.



In general, the computed and observed values agree pretty closely, the greatest difference between the two not exceeding 0.0006. The computed curve passes the maximum of 0.0271 at about 1^h a. m., and the minimum of 0.0239 at about $11\frac{1}{2}^h$ p. m., thus exhibiting a range of 0.0052. Besides the absolute maximum there are two relative maxima of 0.0268 and 0.0256, respectively, occurring at 6^h a. m. and 7^h p. m., respectively. The two corresponding relative minima of 0.0264 and 0.0251, respectively, being reached at about $7\frac{1}{4}^h$ a. m. and 6^h p. m. An examination of the corresponding thermal curve shows that the absolute maximum occurs at 2^h p. m. and a relative maximum at 8^h a. m., which latter, however, is merely accidental; the minimum temperature during the period in question being reached at midnight.

In order to investigate the diurnal fluctuation of the force of vapor during winter the means of the computed values for December, January, and February were taken, given in the following table, with the observed values and the differences between the two:

Diurnal fluctuation of the force of vapor at Polaris House during winter.

Time.	Observed.	Computed.	Difference, O.—C.	Time.	Observed.	Computed.	Difference, O.—C.
	Inches.	*Inches.*	*Inches.*		*Inches.*	*Inches.*	*Inches.*
0^h	0.0118	0.0112	+0.0006	Noon.	0.0113	0.0113	±0.0000
1	.0115	.0114	+ .0001	1^h	.0111	.0110	+ .0001
2	.0112	.0115	— .0003	2	.0109	.0111	— .0002
3	.0115	.0113	+ .0002	3	.0112	.0109	+ .0003
4	.0118	.0118	± .0000	4	.0109	.0111	— .0002
5	.0113	.0117	— .0004	5	.0106	.0106	± .0000
6	.0127	.0121	+ .0006	6	.0108	.0108	± .0000
7	.0114	.0119	— .0005	7	.0108	.0109	— .0001
8	.0116	.0119	.0003	8	.0104	.0104	± .0000
9	0116	.0118	— .0002	9	.0109	.0107	+ .0002
10	.0119	.0116	+ .0003	10	.0109	.0109	± .0000
11	0.0112	0.0115	—0.0003	11	0.0108	0.0107	+0.0001

Mean = 0.0111; difference = ± 0.0000.

The curve resulting from the above values will be found in the discussion of the diurnal fluctuation of the relative humidity given hereafter, where the two hygrometrical curves are represented simultaneously.

As was found to be the case at Polaris Bay, the curve now in question is rather irregular. It passes through the absolute maximum of 0.0121 at 6^h a. m., while the minimum of 0.0104 is reached at 8^h p. m., the range being 0.0017 only. Both the computed and observed absolute maxima and minima coincide in regard to time. Besides the absolute maximum and minimum there are a number of secondary maxima and minima, as a glance at the above table, or at the curve referred to, will demonstrate. The corresponding thermal curve passes the absolute maximum at midnight and the absolute minimum at noon, there being, consequently, no coincidence of the maxima and minima of temperature and force of vapor in regard to time.

The following table exhibits the—

Diurnal fluctuation of the force of vapor at Polaris House during spring.

Time.	Observed.	Computed.	Difference, O.—C.	Time.	Observed.	Computed.	Difference, O.—C.
	Inches.	*Inches.*	*Inches.*		*Inches.*	*Inches.*	*Inches.*
0^h	0.0358	0.0362	—0.0004	Noon.	0.0429	0.0433	—0.0004
1	.0357	.0364	— .0007	1^h	.0433	.0436	.0003
2	.0372	.0370	+ .0002	2	.0433	.0438	— .0005
3	.0383	.0379	.0004	3	.0435	.0431	+ .0004
4	.0392	.0386	+ .0006	4	.0426	.0428	— .0002
5	.0399	.0399	± .0000	5	.0414	.0419	.0005
6	.0397	.0405	— .0008	6	.0407	.0412	— .0005
7	.0408	.0410	— .0002	7	.0402	.0402	± .0000
8	.0419	.0408	+ .0011	8	.0394	.0399	— .0005
9	.0429	.0419	+ .0010	9	.0384	.0382	+ .0002
10	.0424	.0424	± .0000	10	.0380	.0372	.0008
11	0.0426	0.0429	—0.0003	11	0.0371	0.0365	+0.0006

Mean = 0.0403; difference = ± 0.000.

The curve showing the diurnal march of the force of vapor during spring will be found represented simultaneously with the one exhibiting the fluctuation of the relative humidity, in the discussion of this latter subject, given hereafter. It may be seen that the computed curve passes the maximum of 0.0438 at 2^h p. m., while the minimum of 0.0362 is reached at midnight, thus showing

a range of 0.0076. Besides the absolute maximum there is a relative (accidental) maximum of 0.0410 taking place at about 7^h a. m. The maximum and minimum, as observed, occur at 3^h p. m. and 1^h a. m., respectively, coinciding in regard to time pretty closely with their corresponding computed values. The corresponding thermal curve passes the maximum about half an hour past noon and the minimum at midnight. At Polaris Bay the maxima of temperature and force of vapor occurred nearly at the same time (noon), while in this instance the maximum of force of vapor suffers a retardation of about 2½ hours.

For the better understanding of the diurnal fluctuation of the force of vapor during the two seasons in question, and during the winter-half-year, we shall now consider the diurnal fluctuation during the different months on record.

The analytical elements and expressions made use of are as follows:

December.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 0.0008	+ 0.0015	+ 0.0017	332 5 6
2	− 0.0001	+ 0.0003	+ 0.0004	341 24 19
3	+ 0.0005	+ 0.0002	+ 0.0005	87 48 27

$$F = +0.0212 + 0.0017 \sin(x + 332^\circ 5' 6'') + 0.0004 \sin(2x + 341^\circ 24' 19'') + 0.0005 \sin(3x + 87^\circ 48' 27'')$$
$$x = 15^\circ, 30^\circ, \ldots.$$

January.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 0.00020	+ 0.00020	+ 0.0003	353 29 58
2	+ 0.0001	+ 0.00003	+ 0.0001	77 6 42
3	+ 0.00003	+ 0.00004	+ 0.0001	327 53 0

$$F = +0.0047 + 0.0003 \sin(x + 353^\circ 29' 58'') + 0.0001 \sin(2x + 77^\circ 6' 42'') + 0.0001 \sin(3x + 327^\circ 53' 0'')$$
$$x = 15^\circ, 30^\circ \ldots.$$

February.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 0.0004	− 0.0001	+ 0.0004	254 23 5
2	− 0.0001	− 0.0004	+ 0.0004	189 52 22
3	− 0.0003	+ 0.0001	+ 0.0003	278 39 38

$$F = +0.0074 + 0.0004 \sin(x + 254^\circ 23' 5'') + 0.0004 \sin(2x + 189^\circ 52' 22'') + 0.0003 \sin(3x + 278^\circ 39' 38'')$$
$$x = 15^\circ, 30^\circ, \ldots.$$

March.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 0.00110	− 0.00050	+ 0.0010	241 45 33
2	− 0.00010	+ 0.00040	+ 0.0004	346 20 22
3	− 0.00010	− 0.00001	+ 0.0001	261 58 28

$$F = +0.0068 + 0.0010 \sin(x + 241^\circ 45' 33'') + 0.0004 \sin(2x + 346^\circ 20' 22'') + 0.0001 \sin(3x + 261^\circ 58' 28'')$$
$$x = 15^\circ, 30^\circ, \ldots.$$

April.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	— 0.0044	— 0.0025	+ 0.0051	240 18 10
2	+ 0.0001	— 0.0003	+ 0.0003	171 57 57
3	+ 0.0004	+ 0.0002	+ 0.0004	66 39 46

$$F = +0.0299 + 0.0051 \sin (x + 240^\circ 18' 10'') + 0.0003 \sin (2x + 171^\circ 57' 57'') + 0.0004 \sin (3x + 66^\circ 39' 46'')$$
$$x = 15^\circ, 30^\circ, \ldots .$$

May.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	— 0.0041	— 0.0009	+ 0.0042	258 23 21
2	— 0.0017	— 0.0002	+ 0.0017	263 6 44
3	— 0.0005	— 0.0009	+ 0.0010	207 31 0

$$F = +0.0841 + 0.0042 \sin (x + 258^\circ 23' 21'') + 0.0017 \sin (2x + 263^\circ 6' 44'') + 0.0010 \sin (3x + 207^\circ 31' 0'')$$
$$x = 15^\circ, 30^\circ, \ldots .$$

The values obtained by means of the above expressions are as follows:

FORCE OF VAPOR.

Time.	December.			Time.	January.		
	Observed.	Computed.	Difference, O.—C.		Observed.	Computed.	Difference, O.—C.
	Inches.	*Inches.*	*Inches.*		*Inches.*	*Inches.*	*Inches.*
0^h	0.0234	0.0223	+0.0011	0^h	0.0050	0.0048	+0.0002
1	.0232	.0225	+ .0007	1	.0048	.0049	— .0001
2	.0218	.0227	— .0009	2	.0047	.0049	.0002
3	.0228	.0220	+ .0008	3	.0048	.0049	— .0001
4	.0230	.0232	— .0002	4	.0049	.0049	± .0000
5	.0219	.0227	— .0008	5	.0047	.0049	— .0002
6	.0263	.0240	+ .0023	6	.0046	.0049	.0003
7	.0216	.0232	— .0016	7	.0048	.0049	— .0001
8	.0223	.0229	.0006	8	.0053	.0049	+ .0004
9	.0219	.0224	— .0005	9	.0051	.0051	± .0000
10	.0227	.0219	+ .0008	10	.0054	.0049	+ .0005
11	.0202	.0214	— .0012	11	.0050	.0051	— .0001
Noon.	.0215	.0213	+ .0002	Noon.	.0047	.0048	— .0001
1^h	.0212	.0208	+ .0004	1^h	.0047	.0047	± .0000
2	.0209	.0217	— .0008	2	.0045	.0045	± .0000
3	.0219	.0212	+ .0007	3	.0046	.0045	+ .0001
4	.0205	.0218	— .0013	4	.0046	.0043	.0003
5	.0201	.0198	+ .0003	5	.0045	.0043	.0002
6	.0201	.0202	— .0001	6	.0045	.0044	+ .0001
7	.0199	.0205	.0006	7	.0043	.0043	± .0000
8	.0196	.0190	— .0006	8	.0044	.0045	— .0001
9	.0207	.0203	+ .0004	9	.0041	.0045	.0004
10	.0214	.0211	+ .0003	10	.0046	.0047	— .0001
11	0.0209	0.0209	±0.0000	11	0.0045	0.0045	±0.0000
Means.	0.0212	0.0212	±0.0000	Means.	0.0047	0.0047	±0.0000

FORCE OF VAPOR—Continued.

Time.	February.			Time.	March.		
	Observed.	Computed.	Difference, O.—C.		Observed.	Computed.	Difference, O.—C.
	Inches.	*Inches.*	*Inches.*		*Inches.*	*Inches.*	*Inches.*
0^h	0.0070	0.0065	+0.0005	0^h	0.0063	0.0058	+0.0005
1	.0065	.0066	— .0001	1	.0063	.0061	+ .0002
2	.0072	.0069	+ .0003	2	.0062	.0064	— .0002
3	.0070	.0071	— .0001	3	.0056	.0063	— .0007
4	.0074	.0072	+ .0002	4	.0066	.0064	+ .0002
5	.0073	.0074	— .0001	5	.0067	.0064	+ .0003
6	.0074	.0075	— .0001	6	.0061	.0065	— .0004
7	.0077	.0076	+ .0001	7	.0065	.0064	+ .0001
8	.0074	.0078	— .0004	8	.0069	.0066	+ .0003
9	.0079	.0080	.0001	9	.0067	.0070	— .0003
10	.0078	.0081	— .0003	10	.0072	.0073	— .0001
11	.0083	.0080	+ .0003	11	.0078	.0077	+ .0001
Noon.	.0076	.0077	— .0001	Noon.	.0081	.0080	.0001
1^h	.0074	.0074	± .0000	1^h	.0083	.0081	+ .0002
2	.0073	.0071	+ .0002	2	.0081	.0081	± .0000
3	.0073	.0071	.0002	3	.0076	.0079	— .0003
4	.0076	.0072	+ .0004	4	.0077	.0076	+ .0001
5	.0072	.0076	— .0004	5	.0075	.0074	.0001
6	.0078	.0079	— .0001	6	.0070	.0069	+ .0001
7	.0084	.0080	+ .0004	7	.0065	.0066	— .0001
8	.0072	.0078	— .0006	8	.0062	.0062	± .0000
9	.0079	.0074	.0005	9	.0061	.0060	+ .0001
10	.0069	.0071	— .0002	10	.0056	.0054	+ .0002
11	0.0071	0.0066	+0.0005	11	0.0053	0.0058	—0.0005
Means.	0.0074	0.0074	±0.0000	Means.	0.0068	0.0068	±0.0000

Time.	April.			Time.	May.		
	Observed.	Computed.	Difference, O.—C.		Observed.	Computed.	Difference, O.—C.
	Inches.	*Inches.*	*Inches.*		*Inches.*	*Inches.*	*Inches.*
0^h	0.0236	0.0252	—0.0016	0^h	0.0747	0.0775	—0.0028
1	.0241	.0248	— .0007	1	.0766	.0783	— .0017
2	.0249	.0246	+ .0003	2	.0806	.0801	+ .0005
3	.0267	.0249	+ .0018	3	.0827	.0826	+ .0001
4	.0254	.0256	— .0002	4	.0856	.0837	— .0019
5	.0271	.0273	.0002	5	.0860	.0859	+ .0001
6	.0283	.0287	.0004	6	.0846	.0862	— .0016
7	.0300	.0305	— .0005	7	.0859	.0862	+ .0003
8	.0324	.0319	+ .0005	8	.0863	.0838	.0025
9	.0341	.0330	+ .0011	9	.0879	.0858	.0021
10	.0332	.0337	— .0005	10	.0869	.0861	.0008
11	.0337	.0340	.0003	11	.0863	.0870	+ .0007
Noon.	.0340	.0343	.0003	Noon.	.0867	.0875	— .0008
1^h	.0345	.0347	.0002	1^h	.0870	.0879	.0009
2	.0351	.0357	— .0006	2	.0868	.0877	— .0009
3	.0348	.0344	+ .0004	3	.0882	.0870	+ .0012
4	.0338	.0336	.0002	4	.0862	.0873	— .0011
5	.0328	.0325	+ .0003	5	.0860	.0857	+ .0003
6	.0307	.0314	— .0007	6	.0843	.0852	.0009
7	.0295	.0297	— .0002	7	.0846	.0844	+ .0002
8	.0288	.0284	+ .0004	8	.0831	.0850	— .0019
9	.0270	.0274	— .0004	9	.0821	.0812	+ .0009
10	.0276	.0268	+ .0008	10	.0809	.0793	.0016
11	0.0269	0.0259	+0.0010	11	0.0792	0.0778	+0.0014
Means.	0.0299	0.0299	±0.0000	Means.	0.0841	0.0841	±0.0000

From the above table it appears that in December the computed curve passes through the maximum at 6^h a. m. and through the minimum at 8^h p. m., the corresponding observed maximum and minimum occurring at the same hours. The ranges, as derived from the computed and observed values, are 0.0050 and 0.0067, respectively. The maximum of temperature is reached at midnight, while the minimum occurs at 2^h p. m.

In January the curve is rather irregular, showing two maxima of 0.0051 each, occurring at 9^h and 11^h a. m., respectively, while three minima, of 0.0043 each, are reached at 4^h, 5^h, and 7^h, p. m. The range is very small during this month, amounting to 0.0008 only. The corresponding thermal curve passes through the maximum at 6^h p. m., and twelve hours later through the minimum.

In February the observed and computed maxima of 0.0083 and 0.0081, respectively, occur at 11^h and 10^h a. m., respectively, the minima, of 0.0065 each, being reached at 1^h a. m. and midnight, respectively. The maximum temperature during this month is reached at 8^h p. m., while the minimum occurs at noon.

The curve representing the diurnal fluctuation during March coincides well with the thermal curve. The observed and computed maxima of force of vapor occur at 1^h p. m. and about three-quarters of an hour past noon, respectively, while the minima are reached at 11^h p. m. The maximum and minimum temperatures occur at 2^h p. m. and 10^h p. m., respectively.

The April curve exhibits a very regular course; the maximum of 0.0357 being reached at 2^h p. m., while the minimum of 0.0246 occurs at 2^h a. m., the range thus being 0.0111. The observed maximum of 0.0351 coincides in regard to time with the corresponding computed value, while the observed minimum takes place about one hour before the occurrence of the one computed. It will be remembered that during this month the maximum temperature was reached as early as 10^h a. m., while the minimum took place at 2^h a. m.

In May the computed curve passes through the maximum of 0.0879 at 1^h p. m., the minimum of 0.0775 being reached at midnight, thus giving a range of 0.0104. The maximum and minimum of temperature occur at noon and midnight, respectively.

The following table of corrections derived directly from the table headed "Hourly means" may be found useful:

Corrections to be applied to any hourly observation taken at Polaris House to obtain the mean force of vapor of the day.

Time.	November.	December.	January.	February.	March.	April.	May.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	—0. 00011	—0. 00213	—0. 00032	+0. 00014	+0. 00042	+0. 00638	+0. 00945
1	+ .01011	.00196	.00013	.00086	.00050	.00587	.00755
2	.00310	.00058	.00002	.00023	.00053	.00502	.00355
3	.00058	.00159	.00008	+ .00039	.00117	.00347	+ .00143
4	+ .00210	.00180	— .00022	± .00000	.00013	.00454	— .00146
5	— .00019	.00063	+ .00003	+ .00008	.00008	.00285	.00186
6	.00034	.00509	+ .00009	— .00005	.00067	+ .00166	.00045
7	.00052	.00037	— .00004	— .00032	+ .00023	— .00002	.00184
8	.00161	.00110	.00061	+ .00003	— .00016	.00247	.00226
9	.00108	.00065	.00038	— .00052	+ .00002	.00418	.00377
10	.00104	.00145	.00071	.00038	+ .00042	.00329	.00273
11	.00167	+ .00099	— .00030	.00089	— .00106	.00378	.00216
Noon.	.00166	— .00023	+ .00006	.00018	.00136	.00408	.00257
1^h	.00158	+ .00007	.00002	— .00002	.00150	.00458	.00291
2	.00122	+ .00038	.00018	+ .00009	.00132	.00519	.00270
3	.00133	— .00065	.00008	+ .00011	.00080	.00482	.00411
4	.00142	+ .00069	.00008	— .00021	.00091	.00384	.00209
5	— .00116	.00114	.00019	+ .00015	.00075	.00282	.00190
6	± .00000	.00113	.00022	— .00044	— .00020	— .00079	.00021
7	— .00108	.00135	.00043	— .00097	+ .00030	+ .00047	— .00045
8	.00106	.00168	.00043	+ .00020	.00052	.00119	+ .00099
9	— .00017	+ .00055	.00057	.00051	.00068	.00292	.00207
10	+ .00024	— .00013	.00012	.00041	.00115	.00239	.00321
11	+0. 00114	+0 00028	+0. 00017	+0. 00031	+0. 00148	+0. 00303	+0. 00497

RELATIVE HUMIDITY.

The following two tables contain the daily and hourly means of the relative humidity extracted from the preceding record:

Daily means of relative humidity observed at Polaris House.

Day of month.	November.	December.	January.	February.	March.	April.	May.
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p.c.
1	78.82	61.12	39.79	34.00	55.58	35.99	67.57
2	87.22	59.18	32.95	53.25	45.90	41.30	79.33
3	87.73	60.21	29.97	59.52	36.45	49.33	81.68
4	86.34	70.69	30.37	60.22	34.82	43.64	73.47
5	87.02	71.43	50.10	76.91	43.42	57.34	61.19
6	78.07	64.59	42.28	50.77	43.56	53.40	56.34
7	78.28	64.51	62.11	56.80	41.64	62.04	56.64
8	79.14	86.30	63.12	47.56	46.17	63.80	56.29
9	80.53	72.50	55.44	57.29	59.38	61.46	63.89
10	72.40	63.91	59.48	49.72	52.92	67.90	73.92
11	67.72	66.99	36.98	58.84	54.38	77.05	74.76
12	62.27	62.87	35.55	70.92	60.99	74.64	70.72
13	89.44	53.56	34.39	32.39	51.98	76.87	75.34
14	87.82	60.64	32.63	33.96	50.63	86.02	80.22
15	79.39	67.10	31.14	50.99	53.02	84.28	86.16
16	83.50	70.64	36.33	36.68	53.80	76.97	87.04
17	75.22	72.55	26.30	39.45	59.02	76.49	81.96
18	58.77	74.94	35.75	34.99	53.85	77.66	81.59
19	64.78	71.77	33.60	28.75	57.91	75.54	78.56
20	70.58	74.84	40.82	28.82	70.52	79.57	82.87
21	72.53	72.48	29.62	39.32	72.83	77.57	80.71
22	81.22	78.83	32.98	38.84	54.81	74.54	74.45
23	78.28	78.48	26.92	62.66	40.60	69.01	79.77
24	70.28	76.71	36.14	65.52	51.75	82.88	80.22
25	77.78	74.73	39.85	50.74	49.18	81.92	82.73
26	71.11	66.64	47.00	49.49	44.63	77.93	76.80
27	72.15	65.34	50.63	43.39	39.69	74.44	81.62
28	67.12	68.26	39.63	55.57	28.87	74.04	80.22
29	64.03	52.15	37.78	....	32.34	72.62	75.12
30	69.76	44.85	47.32	....	21.80	76.09	70.48
31	....	34.01	52.62	....	14.00	....	70.54

Hourly means of relative humidity observed at Polaris House.

	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.
0^h	77.92	68.47	41.96	47.74	46.39	65.38	74.22
1	77.77	67.04	40.99	47.76	46.10	67.31	76.52
2	77.85	65.75	40.90	47.77	45.32	68.06	75.10
3	77.01	66.34	40.87	47.92	46.13	67.23	75.56
4	75.89	69.59	40.54	48.25	48.79	66.46	75.91
5	76.37	67.45	40.41	48.83	46.21	67.52	75.58
6	75.04	66.45	40.11	49.60	45.82	68.79	75.31
7	75.17	68.43	42.31	49.51	47.31	69.99	74.32
8	77.48	69.22	46.25	49.34	48.14	71.42	73.18
9	74.76	68.45	45.31	49.02	47.99	70.31	73.25
10	75.99	66.13	42.56	48.34	47.98	66.70	72.88
11	76.64	66.15	41.35	49.37	48.10	68.27	72.19
Noon.	76.84	66.18	41.00	51.87	51.27	69.77	72.57
1^h	75.65	67.23	40.01	51.73	53.21	70.13	73.91
2	76.51	69.02	39.40	51.11	54.35	71.64	75.82
3	76.36	67.31	38.76	50.01	52.10	71.25	75.80
4	77.39	65.55	38.86	47.48	50.47	71.12	75.82
5	76.79	64.39	37.23	47.56	49.23	71.02	75.79
6	75.78	64.29	37.76	47.84	48.62	70.61	75.67
7	74.33	63.21	36.25	47.63	48.01	70.61	75.91
8	73.88	66.28	35.88	47.46	44.37	70.47	76.84
9	74.58	65.12	37.19	46.92	45.23	70.02	75.93
10	74.41	66.95	39.28	46.58	43.75	69.53	75.58
11	73.34	66.73	40.10	47.13	46.21	69.31	75.27
Means.	76.25	66.66	40.38	48.61	47.94	69.16	74.91

ANNUAL FLUCTUATION OF RELATIVE HUMIDITY AT POLARIS HOUSE.

In discussing the annual fluctuation of relative humidity during the winter-half-year analytically, the following elements and expression were used:

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 2.447	− 2.382	+ 3.230	229 30 0
2	− 1.580	+ 0.999	+ 1.878	301 2 43
3	+ 0.335	+ 0.093	+ 0.343	75 10 0

$$H = 57.942 + 3.230 \sin (x + 229^\circ 30' 0'') + 1.878 \sin (2x + 301^\circ 2' 43'') + 0.343 \sin (3x + 75^\circ 10' 0'')$$
$$x = 60^\circ, 120^\circ, \ldots\ldots$$

The following table contains the values obtained by the above formula; also, the observed values and the differences between the observed and computed values:

Months and seasons.	Observed.	Computed.	Difference, O.—C.
December, 1872	66.600	66.625	− 0.025
January, 1873	40.319	42.519	− 2.200
February	48.513	49.588	− 1.075
March	48.039	47.889	+ 0.150
April	69.270	68.149	1.121
May	74.912	72.883	+ 2.029
Means	57.942	57.942	± 0.000
Winter	51.811	52.911	− 1.100
Spring	64.074	62.974	+ 1.100

According to the preceding table the relative humidity is above the mean in March, April, and May, while it is below the same during the three remaining months. As may well be expected, it is less in winter than in spring, it being below the mean during the former season and above the same during the latter. At Polaris Bay the minimum relative humidity was reached in February, while in this case it occurs in January.

A comparison of the march of the relative humidity and force of vapor during the winter-half-year brings out the fact that the minimum relative humidity in January corresponds to a relative maximum of force of vapor, while a relative maximum of relative humidity in February coincides with the minimum of force of vapor. From the middle of February until May the two curves run nearly parallel.

The mean relative humidity as observed at Polaris House and Polaris Bay during the winter-half-year compares as follows:

	December.	January.	February.	March.	April.	May.	Winter.	Spring.	Mean.
Polaris House	66.600	40.319	48.513	48.039	69.270	74.912	51.811	64.074	57.942
Polaris Bay	54.673	47.525	53.351	56.204	77.686	83.666	51.849	72.519	62.184

It will be seen that the relative humidity as observed at Polaris Bay was greater in every month, with the exception of December, than at Polaris House; the greatest difference occurring in May, the least in February.

DIURNAL FLUCTUATION OF RELATIVE HUMIDITY AT POLARIS HOUSE DURING THE WINTER-HALF-YEAR.

In discussing the diurnal fluctuation of relative humidity during the winter-half-year the following analytical elements and expression were used:

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 0.921	+ 0.8596	+ 1.2598	313 01 39
2	+ 0.7283	+ 0.57415	+ 0.9274	51 45 03
3	+ 0.421	− 0.8436	+ 0.9586	153 28 48
4	− 0.61383	+ 0.33023	+ 0.6979	298 16 46

$$H = +60.292 + 1.2598 \sin (x + 313^\circ\ 01'\ 39'') + 0.9274 \sin (2x + 51^\circ\ 45'\ 03'') + 0.9586 \sin (3x + 153^\circ\ 28'\ 48'') + 0.6979 \sin (4x + 298^\circ\ 16'\ 46'')$$

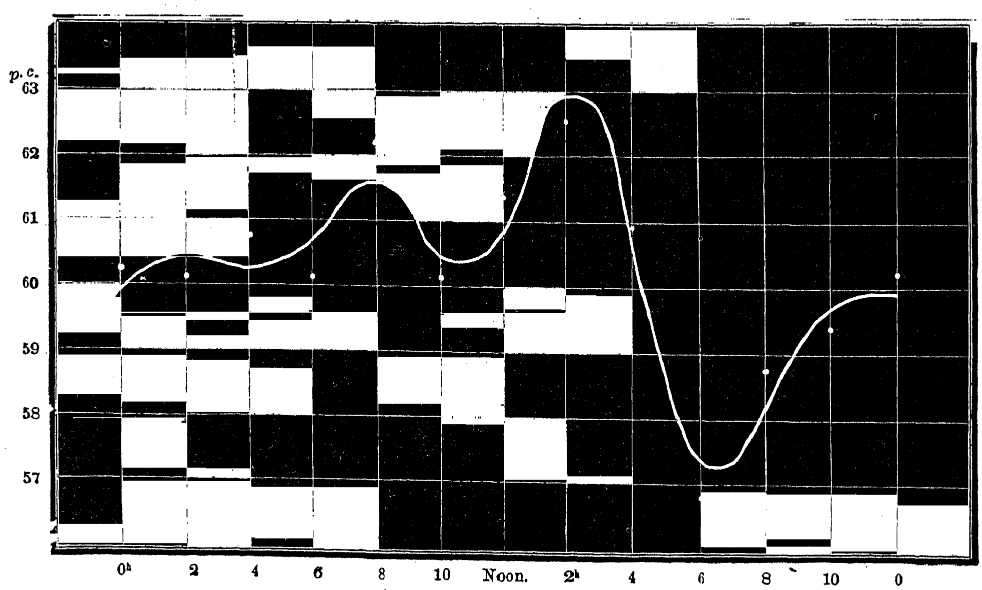
$$x = 30^\circ, 60^\circ, \ldots.$$

By means of the above expression the following values were obtained:

Time.	Observed.	Computed.	Difference, O.−C.	Time.	Observed.	Computed.	Difference, O.−C.
	p. c.	p. c.	p. c.		p. c.	p. c.	p. c.
0^h	60.296	59.912	+0.384	Noon.	61.357	60.898	+0.459
2	60.106	60.524	− .418	2^h	62.548	62.974	− .426
4	60.776	60.302	+ .474	4	60.956	60.592	+ .364
6	60.162	60.666	− .504	6	56.899	57.232	− .333
8	62.147	61.656	+ .491	8	58.740	58.390	+ .350
10	60.082	60.549	−0.467	10	59.439	59.811	−0.372
Mean = 60.292; difference = ± 0.000.							

The above values thrown into a curve result in the following diagram:

Diurnal fluctuation of relative humidity at Polaris House, winter-half-year 1872–'73.



The computed curve passes through the absolute maximum of 62.986 at $2^h\ 5^m$ p. m. and through the absolute minimum of 57.134 at $6^h\ 21^m$ p. m., thus exhibiting a range of 5.852. Besides the absolute maximum there are two relative maxima of 61.6565 and 60.570, respectively, occurring at $7^h\ 59^m.5$ and $2^h\ 30^m.5$ a. m., respectively, the corresponding relative minima of 60.230 and 60.203 respectively, being reached at $4^h\ 28^m$ and $10^h\ 54^m$ a. m., respectively. If we compare the curve under

consideration with that representing the diurnal fluctuation of the force of vapor, we shall see that the absolute maximum of the latter, occurring about 1^h a. m., corresponds almost to a relative minimum of relative humidity; while the absolute minimum, which is reached at 11^h p. m., corresponds nearly to a relative maximum of relative humidity. It will be remembered that the thermal curve passes through the maximum at 2^h p. m. and through the minimum at midnight.

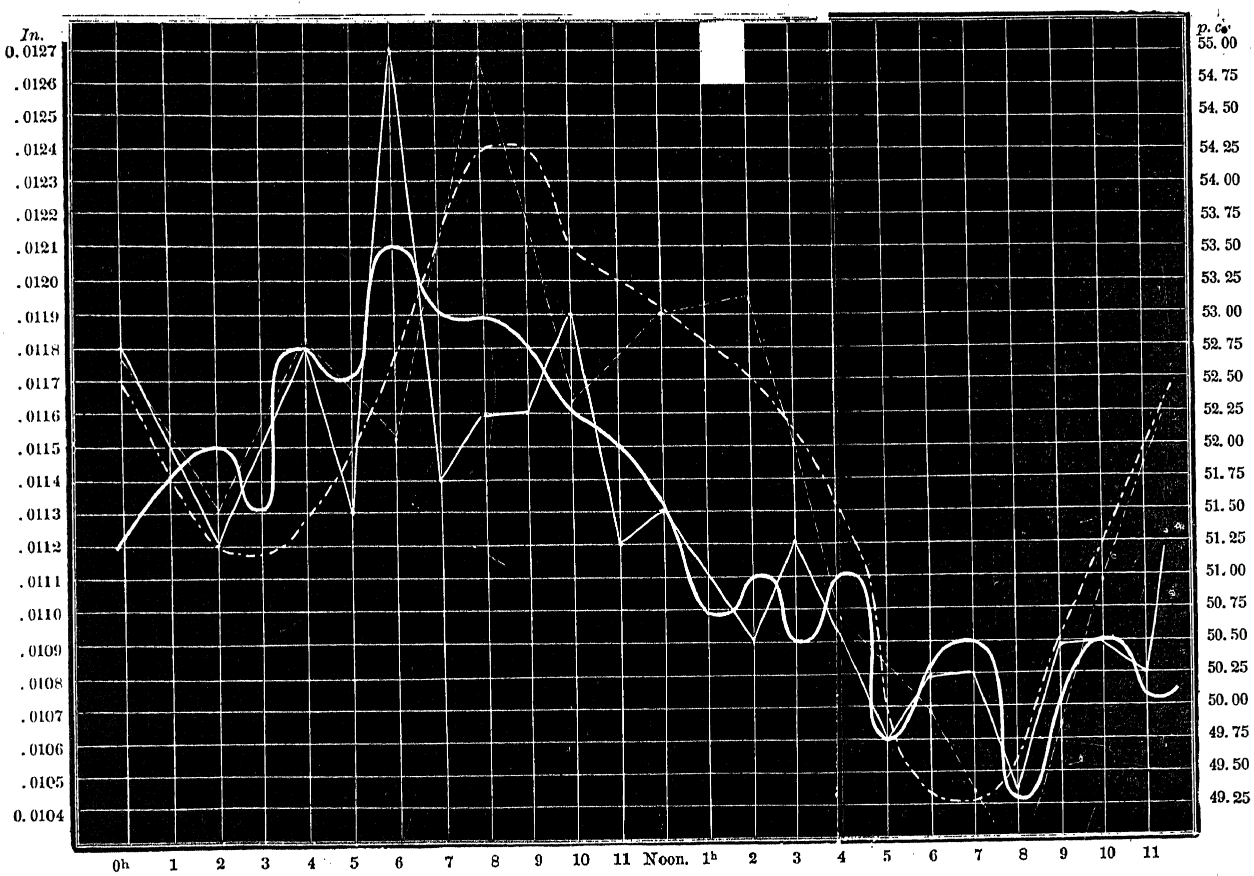
DIURNAL FLUCTUATION OF RELATIVE HUMIDITY DURING WINTER AND SPRING AT POLARIS HOUSE.

Winter.—The following computed values showing the diurnal fluctuation of the relative humidity during winter are derived directly from the computed bihourly means of December, January, and February. For comparison the observed values are also given.

	0^h	2	4	6	8	10	Noon.	2^h	4	6	8	10	Mean.
Observed	52.72	51.47	52.79	52.05	54.94	52.34	53.02	53.18	50.63	49.96	48.54	50.94	51.88
Computed	52.43	51.24	51.40	52.73	54.23	53.47	53.08	52.43	51.41	49.29	49.63	51.24	51.88
Δ O.—C.	+ 0.29	+ 0.23	+ 1.39	− 0.68	+ 0.71	− 1.13	− 0.06	+ 0.75	− 0.78	+ 0.67	− 1.09	− 0.30	± 0.00

The above values thrown into a curve result in the following diagram in which the fluctuation of the force of vapor is also represented. The dotted curve shows the diurnal march of the relative humidity:

Diurnal fluctuation of relative humidity and force of vapor during winter, 1872–'73, *at Polaris House.*



The theoretical curve exhibiting the fluctuation of relative humidity passes through the maximum of 54.23 at about $8\frac{1}{2}^h$ a. m., while the minimum of 49.29 occurs at about $7\frac{3}{4}^h$ p. m., thus showing a range of 4.94. Besides the absolute minimum just mentioned there is a relative minimum of 51.24, occurring at about $2\frac{1}{2}^h$ a. m. It will be seen that the computed and observed values agree pretty closely, the greatest difference not exceeding 1.13.

A comparison of the two hygrometrical curves, represented in the above diagram, shows that the absolute minimum of relative humidity coincides with a relative maximum of force of vapor. Most likely, however, this is merely accidental, as during the rest of their march the two curves do not show the relation as traced in lower latitudes in general, and, also, at Polaris Bay, during summer.

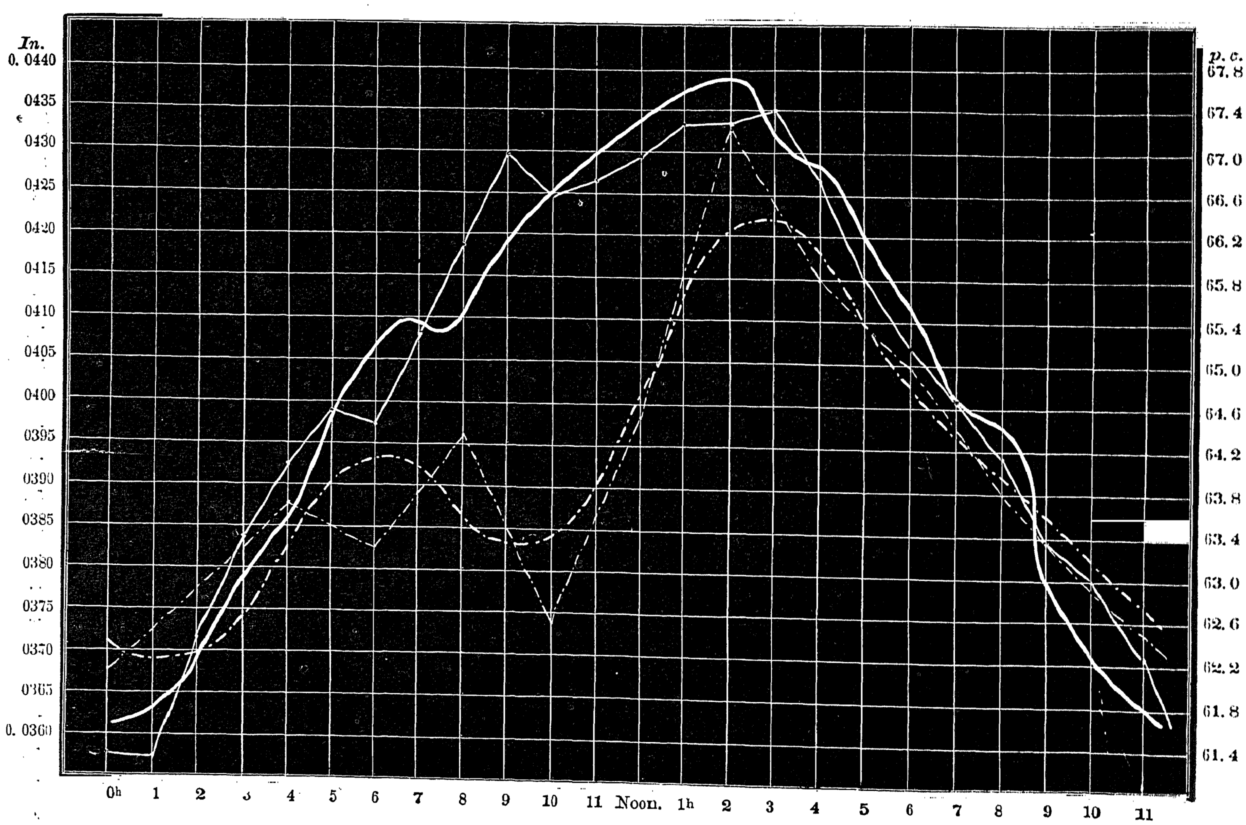
At Polaris Bay the absolute maximum of relative humidity during the season in question was reached at 8^h p. m., which is almost the time of the absolute minimum at Polaris House, while the relative minimum of the latter station coincides within two hours with the absolute minimum at Polaris Bay; the minimum at Polaris Bay being reached earlier.

Spring.—The following values were obtained for spring in a similar manner to that stated above:

	0^h	2	4	6	8	10	Noon.	2^h	4	6	8	10	Mean.
Observed	62.00	62.83	63.72	63.31	64.25	62.52	64.54	67.27	65.80	64.97	63.89	62.95	64.00
Computed	62.31	62.19	63.32	64.08	63.55	63.34	64.76	66.29	66.10	64.87	63.99	63.25	64.00
Δ O.—C.	— 0.31	+ 0.64	+ 0.40	— 0.77	+ 0.70	— 0.82	— 0.22	+ 0.98	— 0.30	+ 0.10	— 0.10	— 0.30	± 0.00

The above values thrown into a curve result in the following diagram, exhibiting also the diurnal fluctuation of the force of vapor:

Diurnal fluctuation of relative humidity and force of vapor during spring, 1873, *at Polaris House.*



The features of the curve exhibiting the diurnal march of the relative humidity are less regular than those at Polaris Bay. The curve shows two maxima of 66.29 and 64.08, respectively, occurring at about $2\frac{3}{4}^h$ p. m. and about $6\frac{1}{4}^h$ a. m.; the two minima of 62.31 and 63.34, respectively, being reached at about 1^h a. m. and about $9\frac{1}{2}^h$ a. m., respectively; consequently, the range equals 3.98, being 0.96 smaller than during winter.

At Polaris Bay a certain parallelism of the two curves in question was noted, and this may be observed here even to a greater extent, as the maxima of force of vapor coincide almost with the maxima of relative humidity; and the same will be seen in regard to the minima.

DIURNAL FLUCTUATION OF RELATIVE HUMIDITY AT POLARIS HOUSE DURING EACH MONTH, FROM NOVEMBER, 1872, TILL JUNE, 1873.

As the time at our disposal was rather limited, it was thought sufficient to compute the values for every other hour instead of using the whole series of hourly observations, which would have been more laborious.

The analytical elements and expressions used in the discussion of this subject are as follows:

November.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 0.455	+ 0.053	+ 0.694	319 7 24
2	− 0.401	+ 0.999	+ 1.077	338 7 30
3	− 0.609	+ 1.031	+ 1.111	329 23 1

$$H = +76.248 + 0.694 \sin (x + 319^\circ\,7'\,24'') + 1.077 \sin (2x + 338^\circ\,7'\,30'') + 1.111 \sin (3x + 329^\circ\,23'\,1'')$$
$$x = 30^\circ, 60^\circ, \ldots.$$

December.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 0.986	+ 1.299	+ 1.631	322 47 43
2	+ 0.186	+ 1.035	+ 1.051	10 11 20
3	+ 1.041	+ 0.864	+ 1.353	50 18 30

$$H = +66.656 + 1{,}631 \sin (x + 322^\circ\,47'\,43'') + 1.051 \sin (2x + 10^\circ\,11'\,20'') + 1.353 \sin (3x + 50^\circ\,18'\,30'')$$
$$x = 30^\circ, 60^\circ, \ldots$$

January.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 1.975	+ 0.947	+ 2.191	295 36 17
2	+ 0.982	+ 0.469	+ 1.408	64 28 19
3	− 0.403	+ 1.609	+ 1.659	345 57 10

$$H = +40.375 + 2.191 \sin (x + 295^\circ\,36'\,17'') + 1.408 \sin (2x + 64^\circ\,28'\,19'') + 1.659 \sin (3x + 345^\circ\,57'\,10')$$
$$x = 30^\circ, 60^\circ, \ldots.$$

February.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 1.586	− 0.287	+ 1.612	259 45 1
2	− 0.129	+ 0.614	+ 0.628	348 10 44
3	+ 0.557	− 0.503	+ 0.751	132 4 30

$$H = +48.614 + 1.612 \sin (x + 259^\circ\,45'\,1'') + 0.628 \sin (2x + 348^\circ\,10'\,44'') + 0.751 \sin (3x + 132^\circ\,4'\,30'')$$
$$x = 30^\circ, 60^\circ, \ldots$$

March.

n	a_n	b_n	B_n	C_n
				° ′ ′
1	− 2.472	− 2.082	+ 3.232	229 53 39
2	− 1.585	+ 0.998	+ 1.879	302 12 6
3	+ 0.332	+ 0.093	+ 0.344	74 20 0

$$H = +47.939 + 3.232 \sin (x + 229^\circ\,53'\,39'') + 1.879 \sin (2x + 302^\circ\,12'\,6'') + 0.344 \sin (3x + 74^\circ\,20'\,0'')$$
$$x = 30^\circ, 60^\circ, \ldots$$

April.

n	a_n	b_n	B_n	C_n
1	− 0.447	− 1.843	+ 1.896	193 40 5
2	− 0.396	− 0.931	+ 1.012	203 2 43
3	+ 0.766	+ 0.203	+ 0.792	75 10 8

$$H = +\,69.163 + 1.896 \sin (x + 193^\circ\ 40'\ 5'') + 1.012 \sin (2\,x + 203^\circ\ 2'\ 43'') + 0.792 \sin (3\,x + 75^\circ\ 10'\ 8'')$$
$$x = 30^\circ,\ 60^\circ, \ldots$$

May.

n	a_n	b_n	B_n	C_n
1	+ 1.185	− 0.307	+ 1.224	104 30 47
2	− 0.135	− 0.474	+ 0.493	195 52 43
3	+ 0.509	− 0.351	+ 0.618	124 36 25

$$H = +\,74.908 + 1.224 \sin (x + 104^\circ\ 30'\ 47'') + 0.493 \sin (2\,x + 195^\circ\ 52'\ 43'') + 0.618 \sin (3\,x + 124^\circ\ 36'\ 25'')$$
$$x = 30^\circ,\ 60^\circ, \ldots$$

By means of the above expressions, the values contained in the following table were obtained. The observed values were also added for the sake of comparison:

Time.	November.			December.			January.			February.		
	Observed.	Computed.	Difference, O.—C.	Observed.	Computed.	Difference, O.—C.	Observed.	Computed.	Difference, O.—C.	Observed.	Computed.	Difference, O.—C.
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.
0h	77.917	77.739	+0.178	68.471	68.305	+0.166	41.958	41.907	+0.051	47.743	47.062	+0.681
2	77.853	78.108	−0.255	65.748	67.050	−1.302	40.897	39.512	1.385	47.768	47.169	+0.599
4	75.890	76.219	0.329	69.590	66.904	+2.686	40.542	38.441	+2.101	48.250	48.864	−0.614
6	75.047	75.699	−0.652	66.452	68.325	−1.873	40.113	40.619	−0.506	49.600	49.248	+0.352
8	77.483	76.794	+0.689	69.216	68.220	+0.996	46.252	45.266	+0.986	49.339	49.188	+0.151
10	75.993	76.867	−0.874	66.129	66.787	−0.658	42.555	44.024	−1.469	48.339	49.610	−1.271
Noon.	76.837	76.089	+0.748	66.177	66.986	−0.809	40.997	41.164	−0.167	51.868	51.102	+0.766
2h	76.507	76.522	−0.015	69.019	67.868	+1.151	39.400	39.042	+0.358	51.111	50.365	+0.746
4	77.387	77.081	+0.306	65.548	66.036	−0.488	38.864	39.766	−0.902	47.479	48.431	−0.952
6	75.780	75.468	0.312	64.293	63.008	+1.285	37.758	37.809	0.051	47.839	47.044	+0.794
8	73.877	73.570	+0.306	62.284	63.486	−1.202	35.881	37.680	−1.799	47.457	47.734	−0.277
10	74.413	74.827	−0.414	66.945	66.897	+0.048	39.281	39.268	+0.013	46.578	47.533	−0.975
M. & D.	76.248	76.248	±0.000	66.656	66.656	±0.000	40.375	40.375	±0.000	48.614	48.614	±0.000

Time.	March.			April.			May.		
	Observed.	Computed.	Difference, O.—C.	Observed.	Computed.	Difference, O.—C.	Observed.	Computed.	Difference, O.—C.
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.
0h	46.390	44.923	+1.467	65.377	67.051	−1.674	74.219	74.952	−0.733
2	45.319	46.231	−0.912	68.057	65.968	+2.088	75.103	74.383	+0.720
4	48.794	47.354	+1.440	66.460	67.513	−1.053	75.909	75.087	0.832
6	45.816	47.631	−1.815	68.793	69.562	−0.769	75.313	75.037	+0.276
8	48.136	47.470	+0.666	71.423	69.441	+1.982	73.177	73.721	−0.544
10	47.977	48.490	−0.513	66.700	68.449	−1.749	72.884	73.079	0.195
Noon.	51.274	51.100	+0.174	69.773	69.265	+0.508	72.574	73.908	−1.334
2h	54.348	52.971	+1.377	71.637	71.140	+0.497	75.816	74.747	+1.069
4	50.474	51.704	−1.230	71.123	71.604	−0.481	75.816	74.999	+0.817
6	48.623	48.103	+0.520	70.607	70.772	−0.166	75.671	75.736	−0.065
8	44.374	45.084	−0.710	70.473	70.102	+0.371	76.835	76.782	+0.053
10	43.745	44.209	−0.464	69.530	69.084	+0.446	75.581	76.467	−0.886
M. & D.	47.939	47.939	±0.000	69.163	69.163	±0.000	74.908	74.908	±0.000

From the above table it appears that in November the observed and computed maxima of 77.853 and 78.108, respectively, occur at 2^h a. m., while the observed and computed minima of 73.877 and 73.570, respectively, are reached at 8^h p. m. The ranges, as derived from the computed and observed values, are 3.176 and 4.538, respectively.

In December the computed curve passes through the maximum of 68.325 at about 6^h a. m while the corresponding observed value occurs one hour earlier. The computed minimum of 63.008, is reached at 6^h p. m. and the minimum, as observed, two hours later. The range, somewhat larger than during the preceding month, is 5.317. The maximum and minimum force of vapor occur at 6^h a. m. and 6^h p. m., respectively, while the thermal curve passes through the maximum at midnight and through the minimum at 2^h p. m.

In January both the observed and computed maxima of 46.252 and 45.266, respectively, occur at 8^h a. m., while the observed and computed minima of 35.881 and 37.680 are reached twelve hours later. Owing to the small range of force of vapor the curve representing the fluctuation of the latter during this month is rather irregular, while the thermal curve passes through the maximum at 6^h p. m. and twelve hours later through the minimum, the tropical moments of the latter coinciding within about two hours with those of the relative humidity.

In February both the observed and computed maxima of 49.600 and 49.248, respectively, are reached at 6^h a. m., while the observed minimum of 46.578 occurs at 10^h p. m., and its corresponding computed value of 47.062 near midnight. The ranges, as deduced from the observed and computed means, are 3.022 and 2.186, respectively. The maximum temperature of this month is reached at 8^h p. m., while the minimum occurs at noon; and the maximum and minimum tension of vapor are reached at 10^h a. m. and midnight, respectively.

The theoretical curve representing the diurnal fluctuation of March passes through the maximum and minimum of 52.971 and 44.209, respectively, at 2^h p. m. and 10^h p. m., respectively, coinciding in regard to time with the maximum and minimum, as observed, and exhibiting a range of 8.762. The maximum and minimum force of vapor are reached at 1^h p. m. and 11^h p. m., respectively, while the thermal curve passes through the maximum at 2^h p. m., and through the minimum at 10^h p. m.

In April the observed and computed minima of 65.377 and 65.968, respectively, occur at 0^h and 2^h a. m., respectively, while the observed and computed maxima of 71.637 and 71.604, respectively, occur at 2^h and about 4^h p. m., respectively. The range, as derived from the computed values, is 5.636, while that deduced from those observed is a trifle smaller. The maximum and minimum tension of vapor occur at 2^h p. m. and 2^h a. m., respectively, while the thermal curve passes through the maximum as early as 10^h a. m. and through the minimum at 2^h a. m.

In May both the observed and computed maximum occur at 8^h p. m., the former amounting to 76.835, the latter to 76.782. The observed and computed minima of 72.574 and 73.079, respectively, occur at noon and about 11^h a. m., respectively. The computed and observed ranges are 4.261 and 3.703, respectively. The maximum tension of vapor during this month occurs at 1^h p. m. and the minimum at midnight, corresponding in regard to time almost with the tropical moments of temperature during the period in question.

ATMIC WIND-ROSE OF POLARIS HOUSE.

The two following tables exhibit the influence of the wind on the relative humidity of the air. They were constructed in a manner similar to that before described:

Months.	N.	N. E.	E.	S. E.	S.	S. W.	W.	N. W.	Calm.
	p. c.	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*
December	+ 6.2	— 8.3	+ 0.5	....	....	+ 9.5	....	+ 0.5	— 8.4
January	— 4.3	5.7	— 0.9	....	+ 2.9	8.7	....	....	— 0.7
February	— 8.1	6.5	....	....	4.4	9.9	....	....	+ 0.6
March	....	— 5.4	— 3.6	....	+ 5.1	5.7	+ 3.7	....	— 5.5
April	....	+ 2.1	....	+ 2.1	— 3.1	+ 2.6	....	....	— 1.6
May	+ 7.4	+ 1.0	+ 0.6	— 1.8	— 9.6	— 0.7	+ 3.0	....	+ 0.1
Half-year	— 0.2	— 3.8	— 0.7	+ 0.7	— 0.1	+ 5.9	+ 1.0	+ 0.2	— 2.6
Winter	— 3.1	— 6.8	— 0.1	....	+ 2.8	+ 9.4	....	+ 0.2	— 2.8
Spring	+ 2.5	— 0.8	— 1.0	+ 0.1	— 2.5	+ 2.5	+ 2.2	....	— 2.3

Months.	Winds.			
	N. E.	E.	S. W.	Calm.
1872.				
November	− − −	− − +	+ + +	− − +
December	− − −	+ + −	+ − +	− − −
1873.				
January	− − +	+ − −	+ + +	− + +
February	− + −	− − +	+ + +	+ + −
March	− − −	− − +	+ − −	− − +
April	− + +	− + +	− + +	− − −
May	+ − −	+ − +	+ + +	− + −

The results exhibited by the above two tables are somewhat more satisfactory than those derived for Polaris Bay, but still they do not permit any definite conclusions. If the time at our disposal had been less limited we should have investigated the influence of the direction of the wind on the elevation or depression of the force of vapor, which might, perhaps, have yielded some better results.

The atmic wind-rose of Polaris House may be represented by the following analytical expression:

$$H = +\,0.32 + 2.74 \sin (x + 223^\circ\ 43') + 0.43 \sin (2x + 339^\circ\ 27'.)$$

The following table contains the corrections to be applied to any hourly observation taken at Polaris House to obtain the mean relative humidity of the day:

Corrections to be applied to any hourly observation taken at Polaris House to obtain the mean relative humidity of the day.

Time.	November.	December.	January.	February.	March.	April.	May.
	p. c.	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*	*p. c.*
0^h	−1.67	−1.81	−0.58	+1.07	+1.55	+3.78	+0.69
1	1.52	−0.38	0.61	0.85	1.84	1.85	−1.61
2	1.60	+0.91	0.52	0.84	2.62	1.10	0.19
3	−0.76	+0.32	0.49	0.69	+1.81	1.93	0.65
4	+0.36	−2.93	0.16	0.36	−0.85	2.70	1.00
5	−0.12	−0.79	−0.03	+0.36	+1.73	1.64	0.67
6	+1.20	+0.21	+0.27	−0.99	2.12	+0.37	−0.40
7	+1.08	−1.77	−1.93	0.90	+0.63	−0.83	+0.59
8	−1.23	2.56	5.87	0.73	−0.20	2.26	1.73
9	+1.49	1.79	4.93	−0.41	0.05	−1.15	1.66
10	+0.26	+0.53	2.18	+0.27	0.04	+2.46	2.03
11	−0.39	0.51	0.97	−0.76	0.16	+0.89	2.72
Noon.	−0.59	+0.48	−0.62	3.26	3.33	−0.61	2.34
1^h	+0.60	−0.57	+0.37	3.12	5.27	0.97	+1.00
2	−0.26	2.36	0.98	2.50	6.41	2.48	−0.91
3	0.11	−0.65	1.62	−1.40	4.16	2.09	0.89
4	1.14	+1.11	1.52	+1.13	2.53	1.96	0.91
5	−0.54	2.57	3.15	1.05	1.29	1.86	0.88
6	+0.47	2.37	2.62	0.77	0.68	1.45	0.76
7	1.92	3.45	4.13	0.98	−0.07	1.55	1.00
8	2.37	4.38	4.50	1.15	+3.57	1.31	1.93
9	1.67	1.54	3.19	1.69	2.71	0.86	1.02
10	1.84	+0.29	1.10	2.03	4.19	0.47	0.67
11	+2.91	−0.07	+0.28	+1.48	+1:73	−0.15	−0.36

DEW-POINT.

The two following tables contain the daily and hourly means of the temperature of the dew-point, extracted from the preceding general record:

Daily means of the temperature of the dew-point observed at Polaris House.

Day of month.	1872. November.	1872. December.	1873. January.	1873. February.	1873. March.	1873. April.	1873. May.
	°	°	°	°	°	°	°
1	— 4.55	—19.35	—40.30	—42.40	—28.50	—39.80	+ 0.10
2	+ 6.79	22.69	43.40	33.30	41.90	36.60	11.10
3	15.48	24.05	44.10	29.40	44.70	33.50	13.60
4	12.89	15.40	43.80	26.50	43.20	36.00	+ 2.40
5	+ 3.09	16.65	29.70	13.10	42.90	27.90	— 4.50
6	— 4.45	20.20	37.50	27.70	39.10	28.70	0.80
7	4.39	—15.29	23.80	25.80	39.30	22.30	2.60
8	8.51	+ 2.46	22.50	32.70	34.10	20.20	6.80
9	7.03	—14.29	28.30	28.80	25.80	24.10	— 3.50
10	11.76	22.10	30.40	34.20	32.50	15.20	+ 7.90
11	18.69	19.80	41.80	27.00	33.20	8.40	7.50
12	—22.36	22.68	43.40	44.80	24.90	—12.40	5.60
13	+ 4.01	29.30	43.10	44.60	36.10	+ 9.80	10.20
14	7.15	23.62	44.30	43.60	37.00	5.50	18.20
15	1.74	17.99	43.70	41.40	35.30	+ 4.50	25.80
16	+ 1.11	16.03	42.30	42.20	32.10	— 8.50	26.20
17	—13.12	15.48	46.00	42.50	28.90	9.80	19.30
18	25.15	11.00	42.40	44.10	39.50	9.00	23.50
19	24.13	11.57	43.30	44.70	29.10	— 9.40	23.60
20	16.44	10.81	39.50	45.70	20.40	+ 1.80	21.10
21	13.43	12.57	44.30	45.20	26.40	— 5.50	22.30
22	2.02	1.62	43.20	40.00	35.90	8.00	26.60
23	5.40	1.07	46.90	25.00	38.30	—12.10	20.60
24	11.83	2.24	45.60	23.60	26.90	+ 7.50	20.00
25	12.06	1.28	44.70	37.10	35.50	+ 0.80	19.80
26	11.05	13.90	44.60	39.40	38.90	— 3.10	19.90
27	9.93	14.97	37.90	40.30	39.10	— 3.10	23.40
28	11.37	18.95	40.20	—33.10	43.20	+ 1.70	19.20
29	18.95	30.78	41.90	....	41.00	3.00	11.50
30	—15.43	34.49	42.10	....	44.50	+ 4.80	7.20
31	....	—41.85	—32.00	....	—46.20	....	+ 7.30
Means.	— 7.61	—16.76	—39.90	—35.56	—35.64	—11.72	+12.77

Hourly means of the temperature of the dew-point observed at Polaris House.

Time.	°	°	°	°	°	°	°
0^h	— 7.40	—15.63	—39.42	—35.84	—36.48	—16.23	+10.13
1	7.01	15.56	39.89	36.81	36.78	15.99	10.50
2	7.56	16.55	40.04	35.99	36.70	15.20	11.37
3	7.76	15.59	39.68	36.35	36.55	15.06	11.57
4	7.88	15.57	40.16	35.55	35.69	14.69	12.23
5	7.74	16.40	39.60	35.39	35.74	13.58	12.82
6	7.79	15.55	40.05	34.89	36.61	12.42	12.86
7	7.68	16.60	40.03	34.19	35.55	11.45	14.31
8	7.05	16.03	38.63	35.16	35.15	9.46	14.41
9	7.44	16.13	39.45	34.38	35.74	8.99	14.38
10	7.43	15.98	39.10	34.59	35.01	9.97	13.86
11	6.98	17.99	39.59	33.52	34.33	8.65	14.29
Noon.	6.82	17.09	39.52	34.50	33.37	8.78	14.00
1^h	7.05	16.93	39.83	34.95	32.93	8.91	13.59
2	7.02	17.02	39.64	34.84	32.95	8.72	13.64
3	7.13	16.42	40.22	34.86	34.39	8.78	13.56
4	7.10	17.70	40.19	35.30	34.00	9.52	12.94
5	7.30	17.82	40.43	36.34	34.34	10.10	12.99
6	7.45	17.73	40.55	35.19	35.27	11.00	12.86
7	8.00	17.93	41.18	34.46	36.35	11.88	12.81
8	8.71	18.12	41.18	36.22	37.31	12.40	12.84
9	8.56	17.56	41.32	36.84	37.68	13.34	12.08
10	8.73	16.78	40.24	36.41	37.96	13.00	11.67
11	— 9.15	—17.58	—40.38	—35.20	—38.43	—13.75	+11.35
Means.	— 7.61	—16.76	—39.90	—35.56	—35.64	—11.72	+12.77

ANNUAL FLUCTUATION OF THE DEW-POINT AT POLARIS HOUSE DURING THE WINTER-HALF-YEAR.

The following table contains the observed and computed temperatures of the dew-point, and also the differences between the observed and computed values:

Months and seasons.	Observed.	Computed.	Difference, O.—C.
	°	°	°
December, 1872	— 16.85	— 16.66	— 0.19
January, 1873	40.06	39.80	0.26
February	35.62	35.08	0.54
March	35.76	35.35	— 0.21
April	— 11.53	— 11.83	+ 0.30
May	+ 12.97	+ 12.07	+ 0.90
Winter	— 30.83	— 30.51	— 0.32
Spring	— 11.44	— 11.76	+ 0.32
Half-year	— 21.13	— 21.13	± 0.00

The analytical elements and expression used in the above computation are as follows:

n	a_n	b_n	B_n	C_n
				° ′ ″
1	+ 24.31	— 2.42	+ 24.43	95 41 6
2	+ 17.18	+ 0.07	+ 17.19	1 24 21
3	— 0.03	± 0.00	+ 0.03	90 0 0

$$D = -21.13 + 24.43 \sin (x + 95^\circ 41' 6'') + 17.19 \sin (2x + 1^\circ 24' 21'') + 0.03 \sin (3x + 90^\circ 0' 0'')$$
$$x = 60^\circ, 120^\circ, \ldots$$

For the sake of better comparison the differences between the temperature of the air and the temperature of the dew-point are given in the following table:

	°		°
December	8.28	March	10.34
January	10.48	April	7.23
February	9.61	May	7.01

	°
Winter	8.46
Spring	8.18
Half-year	8.32

From the above table it appears that during the six months in question the difference between the temperature of the dew-point and the temperature of the air is greatest in January and least in May. At Polaris Bay the greatest difference was found to exist in December, amounting to 11°.93, being somewhat greater than at this station. In December, April, and May the difference between the temperature of the air and the temperature of the dew-point is below the mean, while it is above the same during the three remaining months. Further comparison shows that during winter the difference under consideration was greater at Polaris Bay than at Polaris House, while in spring it was less at the former locality than at the latter. If we calculate the difference during the winter-half-year at Polaris Bay we shall have 9°.17, being 0°.85 greater than the difference as made out for the more southern station. We shall see, hereafter, that the greatest amount of atmospheric precipitation at Polaris House took place during the month of May, when the difference between the temperature of the dew-point and that of the air was smallest.

DIURNAL FLUCTUATION OF THE DEW-POINT AT POLARIS HOUSE DURING THE WINTER-HALF-YEAR.

The analytical elements and expression representing the diurnal fluctuation of the dew-point are as follows:

n	a_n	b_n	B_n	C_n
				° ′ ″
1	− 0.05	+ 0.96	+ 0.96	357 30 00
2	− 0.01	+ 0.31	+ 0.32	347 30 30
3	− 0.23	+ 0.17	+ 0.26	56 10 0

$$D = -21.13 + 0.96 \sin (x + 357^\circ\ 30'\ 0'') + 0.32 \sin (2x + 347^\circ\ 30'\ 30'') + 0.26 \sin (3x + 56^\circ\ 10'\ 0'')$$
$$x = 15^\circ, 30^\circ, \ldots$$

By means of the above expression the following values were obtained:

Time.	Observed.	Computed.	Difference, O.—C.	Time.	Observed.	Computed.	Difference, O.—C.
	°	°	°		°	°	°
0^h	−22.24	−22.20	− 0.04	Noon.	−19.84	−19.85	+ 0.01
1	22.18	22.22	+ 0.04	1^h	19.97	19.95	− 0.02
2	22.16	22.16	± 0.00	2	19.89	19.89	± 0.00
3	21.88	21.89	− 0.01	3	20.16	20.17	+ 0.01
4	21.42	21.41	+ 0.01	4	20.59	20.57	− 0.02
5	21.37	21.37	± 0.00	5	20.89	20.89	± 0.00
6	21.51	21.51	± 0.00	6	21.12	21.13	+ 0.01
7	20.97	20.99	+ 0.02	7	21.45	21.48	+ 0.03
8	20.41	20.40	− 0.01	8	22.02	22.00	− 0.02
9	20.09	20.08	0.01	9	22.43	22.42	− 0.01
10	20.10	20.09	− 0.01	10	22.12	22.13	+ 0.01
11	−20.06	−20.08	+ 0.02	11	−22.36	−22.35	− 0.01
Mean = 21°.13.							

The differences between the computed temperature of the air and the temperature of the dew-point are given in the following table. As the former values were only computed for every other hour, this table only contains the bihourly differences:

0^h	2	4	6	8	10	Noon.	2^h	4	6	8	10	Mean.
9°.06	9°.04	8°.61	9°.04	8°.53	8°.17	8°.05	8°.29	8°.95	9°.17	9°.43	9°.20	8°.79

It will be seen that the temperature of the dew-point approaches nearest to the temperature of the air at noon, while the greatest difference exists at 8^h p. m. The temperature is above the mean during the hours 4, 8, 10, noon, and 2 p. m., while it is below the same during the remaining hours. The diurnal range during the winter-half-year equals 1°.38.

We shall now consider the diurnal fluctuation during winter and spring separately. The values for these two seasons, given hereafter, were not properly computed according to the formula, but we were satisfied to combine the computed hourly means of the respective months constituting one season, taking their mean instead of the computed values.

Diurnal fluctuation of the temperature of the dew-point during winter at Polaris House.

Time.	Observed.	Computed.	Difference, O.—C.	Time.	Observed.	Computed.	Difference, O.—C.
	°	°	°		°	°	°
0h	—30.51	—30.77	+ 0.26	Noon.	—30.30	—30.23	+ 0.07
1	30.44	30.51	+ 0.27	1h	30.22	30.39	+ 0.17
2	30.83	30.55	— 0.28	2	30.44	30.41	— 0.03
3	30.47	30.56	+ 0.09	3	30.44	30.83	+ 0.39
4	30.03	30.60	0.57	4	30.99	30.87	— 0.12
5	30.59	30.76	+ 0.17	5	31.31	31.04	— 0.27
6	30.90	30.66	— 0.24	6	31.11	31.40	+ 0.29
7	31.05	30.73	0.32	7	31.12	31.11	— 0.01
8	30.76	30.53	— 0.23	8	31.78	31.58	0.20
9	29.82	30.20	+ 0.38	9	31.83	31.47	— 0.36
10	29.82	30.33	+ 0.51	10	31.07	31.26	+ 0.19
11	—30.54	—30.12	— 0.42	11	—31.11	—30.82	— 0.29

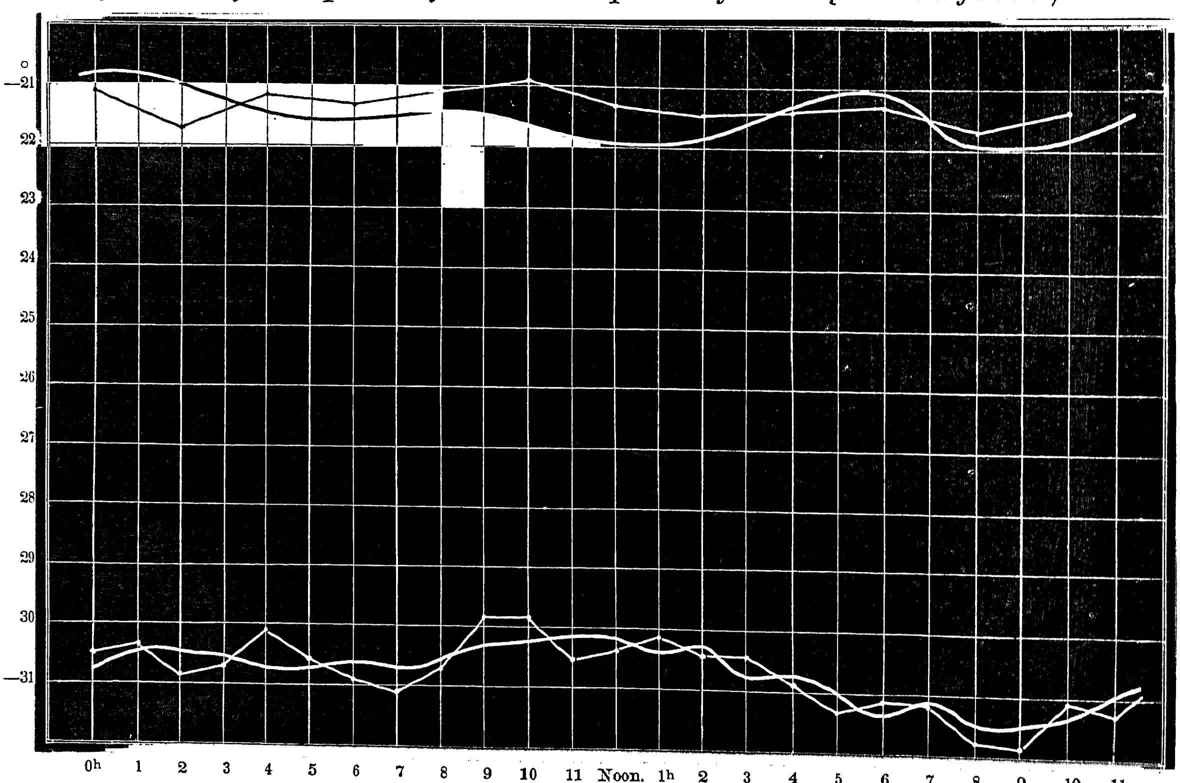
Mean = — 30°.74.

The bihourly differences between the temperature of the air and the temperature of the dew-point are as follows:

0h	2	4	6	8	10	Noon.	2h	4	6	8	10	Mean.
10°.04	9°.55	9°.14	9°.05	9°.05	8°.75	8°.39	8°.66	9°.56	10°.38	10°.60	10°.40	9°.46

The following diagram represents the—

Diurnal fluctuation of the temperature of the air and temperature of the dew-point during winter, 1872–'73



It will be seen that the computed curve exhibiting the fluctuation of the dew-point reaches its maximum of —30°.12 at about 11h a. m., while it passes through the minimum of —31°.58 a short time after 8h p. m., thus exhibiting a range of 1°.46. The maximum and minimum, as observed, viz, —29°.82 and —31°.83, respectively, occur at 10h a. m. and 9h p. m., respectively. The range, as shown by the latter curve, equals 2°.01, being 0°.65 greater than that of the former. The thermal curve and that representing the diurnal fluctuation of the dew-point approach each other most losely at noon, while they recede most from each other between 6h and 10h p. m.

The following table gives the—

Diurnal fluctuation of the temperature of the dew-point during spring at Polaris House.

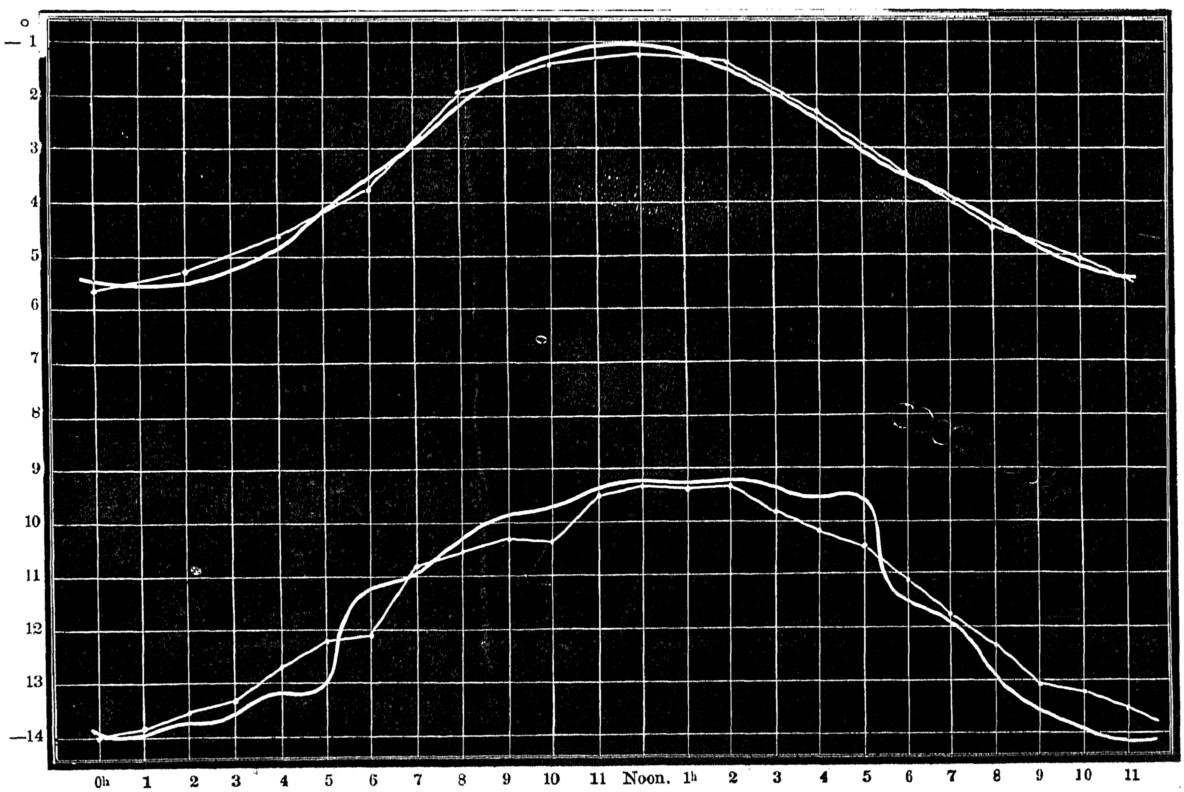
Time.	Observed.	Computed.	Difference, O.—C.	Time.	Observed.	Computed.	Difference, O.—C.
	°	°	°		°	°	°
0h	—13.97	—13.96	— 0.01	Noon.	— 9.39	— 9.27	— 0.12
1	13.92	13.93	+ 0.01	1h	9.42	9.23	0.19
2	13.49	13.75	0.26	2	9.34	9.23	0.11
3	13.30	13.47	0.17	3	9.87	9.37	0.50
4	12.77	13.05	0.28	4	10.18	9.70	0.48
5	12.18	12.74	+ 0.56	5	10.48	9.66	— 0.82
6	12.11	11.17	— 0.94	6	11.14	11.66	+ 0.52
7	10.89	10.99	+ 0.10	7	11.85	11.99	0.14
8	10.06	10.34	+ 0.28	8	12.27	12.83	0.56
9	10.36	9.83	— 0.53	9	13.03	13.47	0.44
10	10.38	9.82	0.56	10	13.15	13.87	0.72
11	— 9.57	— 9.36	— 0.21	11	—13.61	—14.03	+ 0.42
Mean = — 11°.53.							

The bihourly differences between the temperature of the air and that of the dew-point during spring are as follows:

0h	2	4	6	8	10	Noon.	2h	4	6	8	10	Mean.
8°.51	8°.37	8°.29	7°.66	8°.22	8°.59	8°.22	7°.79	7°.43	8°.29	8°.43	8°.79	8°.22

The following diagram represents the—

Diurnal fluctuation of the temperature of the air and temperature of the dew-point during spring, 1873.



During the season in question the mean temperature of the dew-point is 19°.21 higher than it was during winter. The curve derived from the computed values reaches its maximum of —9°.23 between 1^h and 2^h p. m., while it passes through the minimum of —14°.03 at about 11^h p. m., thus exhibiting a range of 4°.80. The observed curve passes through the maximum of —9°.34 at 2^h p. m., and through the minimum of —13°.97 at midnight, its range being 4°.63, which value is 0°.17 smaller than in the former instance. The two curves, represented on the diagram, approach each other most closely at about 5^h p. m., while the greatest difference between the temperature of the air and that of the dew-point occurs at 10^h p. m., amounting to 8°.79.

It remains now to discuss briefly the diurnal fluctuation of the temperature of the dew-point during each of the six months in question. As mentioned before, each month was treated analytically. The analytical elements and expressions made use of are as follows:

December.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	— 0.04	+ 0.94	+ 0.94	357 48 58
2	— 0.01	+ 0.31	+ 0.31	347 37 45
3	+ 0.22	+ 0.15	+ 0.27	56 9 42

$$D = -16.76 + 0.94 \sin(x + 357^\circ 48' 58'') + 0.31 \sin(2x + 347^\circ 37' 45'') + 0.27 \sin(3x + 56^\circ 9' 42'')$$
$$x = 15^\circ, 30^\circ, \ldots$$

January.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	— 0.41	+ 0.35	+ 0.53	310 42 19
2	+ 0.07	+ 0.41	+ 0.41	10 0 29
3	— 0.14	+ 0.04	+ 0.15	286 19 23

$$D = -39.898 + 0.53 \sin(x + 310^\circ 42' 19'') + 0.41 \sin(2x + 10^\circ 0' 29'') + 0.15 \sin(3x + 286^\circ 19' 23'')$$
$$x = 15^\circ, 30^\circ, \ldots$$

February.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	— 0.75	— 0.43	+ 0.87	239 52 38
2	+ 0.35	+ 0.15	+ 0.37	66 5 2
3	— 0.34	+ 0.24	+ 0.41	305 20 39

$$D = -35.56 + 0.87 \sin(x + 239^\circ 52' 38'') + 0.37 \sin(2x + 66^\circ 5' 2'') + 0.41 \sin(3x + 305^\circ 20' 39'')$$
$$x = 15^\circ, 30^\circ, \ldots$$

March.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	— 1.78	— 0.63	+ 1.89	250 39 15
2	— 0.37	+ 0.81	+ 0.87	337 49 13
3	— 0.09	+ 0.04	+ 0.09	294 38 48

$$D = -35.64 + 1.89 \sin(x + 250^\circ 39' 15'') + 0.87 \sin(2x + 337^\circ 49' 13'') + 0.09 \sin(3x + 294^\circ 38' 48'')$$
$$x = 15^\circ, 30^\circ, \ldots$$

April.

n	a_n	b_n	B_n	C_n
				° ′ ″
1	-2.93	-1.61	$+3.34$	12 70 38
2	-0.06	-0.43	$+0.44$	12 35 28
3	$+0.33$	$+0.42$	$+0.53$	12 36 19

$$D=-11.72+3.34 \sin (x+241^\circ 18' 17'')+0.44 \sin (2x+187^\circ 53' 7'')+0.53 \sin (3x+38^\circ 23' 31'')$$
$$x=15^\circ, 30^\circ, \ldots$$

May.

n	a_n	b_n	B_n	C_n
				° ′
1	-1.46	$+0.13$	$+1.50$	270 38
2	-0.45	-0.31	$+0.54$	235 28
3	-0.18	-0.12	$+0.21$	236 19

$$D=+12.77+1.50 \sin (x+270^\circ 38')+0.54 \sin (2x+235^\circ 28')+0.21 \sin (3x+236^\circ 19')$$
$$x=15^\circ, 30^\circ, \ldots$$

By means of the above expressions the following values were obtained:

Time.	December.			January.			February.		
	Observed.	Computed.	Difference, O.—C.	Observed.	Computed.	Difference, O.—C.	Observed.	Computed.	Difference, O.—C.
	°	°	°	°	°	°	°	°	°
0^h	—15.63	—16.14	+ 0.51	—40.05	—40.00	— 0.05	—35.84	—36.18	+ 0.34
1	15.49	15.91	+ 0.42	39.75	39.65	0.10	36.09	35.97	— 0.12
2	16.62	16.32	— 0.30	39.87	39.40	0.47	35.99	35.92	— 0.07
3	15.59	15.91	+ 0.32	39.47	39.34	— 0.13	36.35	36.44	+ 0.09
4	15.57	15.95	+ 0.38	38.96	39.46	+ 0.50	35.55	36.40	0.85
5	16.39	15.96	— 0.43	39.39	39.66	0.27	35.89	36.65	+ 0.76
6	15.55	15.48	0.07	39.85	39.86	0.01	37.30	36.65	— 0.65
7	16.60	15.97	— 0.63	39.83	39.93	+ 0.10	36.71	36.28	— 0.43
8	15.96	16.12	+ 0.16	41.15	39.84	— 1.31	35.16	35.64	+ 0.48
9	16.14	16.37	0.32	38.93	39.65	+ 0.72	34.38	34.58	+ 0.20
10	15.98	17.16	+ 1.18	38.89	39.42	+ 0.53	34.59	34.40	— 0.19
11	17.99	16.95	— 1.04	39.39	39.20	— 0.10	34.25	34.21	0.04
Noon.	17.09	17.08	— 0.01	39.31	39.26	0.05	34.50	34.36	0.14
1^h	16.03	17.09	+ 0.16	39.69	39.36	— 0.33	34.95	34.71	0.24
2	17.02	16.58	— 0.44	39.47	39.58	+ 0.11	34.82	35.06	+ 0.24
3	16.45	17.05	+ 0.60	40.02	39.82	— 0.20	34.86	35.62	0.76
4	17.70	17.23	— 0.47	39.98	40.06	+ 0.08	35.30	35.32	+ 0.02
5	17.82	17.54	— 0.28	39.84	40.28	0.44	36.27	35.31	— 0.96
6	17.73	18.34	+ 0.61	40.42	40.48	+ 0.06	35.19	35.37	+ 0.18
7	17.93	18.07	+ 0.14	40.97	40.65	— 0.32	34.46	34.60	+ 0.14
8	18.15	18.02	— 0.13	40.98	40.77	0.21	36.21	35.94	— 0.27
9	17.54	17.71	+ 0.16	41.12	40.77	— 0.35	36.84	35.92	— 0.92
10	16.78	16.70	— 0.08	40.03	40.64	+ 0.61	36.41	36.44	+ 0.03
11	—17.58	—16.59	— 0.99	—40.18	—40.37	+ 0.19	—35.56	—35.50	— 0.06
Means.	—16.76	—16.76	± 0.00	—39.90	—39.90	± 0.00	—35.56	—35.56	± 0.00

Time.	March. Observed.	March. Computed.	March. Difference, O.—C.	April. Observed.	April. Computed.	April. Difference, O.—C.	May. Observed.	May. Computed.	May. Difference, O.—C.
	°	°	°	°	°	°	°	°	°
0^h	—36.48	—37.44	+ 0.96	—15.56	—14.71	— 0.85	+10.13	+11.08	— 0.95
1	36.78	36.94	+ 0.16	15.49	15.05	— 0.44	10.52	10.77	— 0.25
2	36.70	36.45	— 0.25	15.14	15.30	+ 0.16	11.37	11.23	+ 0.14
3	36.49	36.14	— 0.35	14.99	15.25	+ 0.26	11.58	11.65	— 0.07
4	35.69	36.00	+ 0.31	14.96	14.73	— 0.23	12.23	12.38	0.15
5	35.69	35.98	+ 0.29	13.68	13.68	± 0.00	12.84	12.85	0.01
6	36.68	36.00	— 0.68	12.52	12.30	— 0.22	12.86	13.35	— 0.49
7	35.55	35.90	+ 0.35	11.45	10.91	— 0.54	14.32	13.56	+ 0.76
8	35.14	35.67	+ 0.53	9.46	9.83	+ 0.37	14.42	13.63	+ 0.79
9	35.73	35.23	— 0.50	8.99	9.22	+ 0.23	13.64	13.64	± 0.00
10	35.01	35.59	0.42	9.97	9.08	— 0.89	13.84	13.63	+ 0.21
11	34.35	34.11	— 0.24	8.65	9.18	+ 0.53	14.29	13.62	0.67
Noon.	33.37	33.60	+ 0.23	8.78	9.27	0.49	13.99	13.58	0.41
1^h	32.92	33.29	0.37	8.92	9.21	0.29	13.59	13.48	0.11
2	32.95	33.23	+ 0.28	8.73	9.00	0.27	13.65	13.32	0.33
3	34.39	33.43	— 0.96	8.78	8.89	+ 0.12	13.56	13.17	+ 0.39
4	34.00	33.91	— 0.09	9.52	9.06	— 0.46	12.97	13.00	— 0.03
5	34.33	34.65	+ 0.32	10.09	9.65	0.44	12.99	12.96	+ 0.03
6	35.27	35.53	0.26	11.01	10.60	0.41	12.87	13.09	— 0.22
7	36.41	36.45	+ 0.04	11.99	11.73	— 0.26	12.84	13.56	0.22
8	37.31	37.24	— 0.07	12.35	12.76	+ 0.41	12.85	12.89	0.04
9	37.73	37.77	+ 0.04	13.45	13.53	0.08	12.08	12.52	0.44
10	37.96	37.98	+ 0.02	13.12	14.02	0.90	11.67	12.44	0.77
11	—38.43	—37.83	— 0.60	—13.75	—14.38	+ 0.63	+11.35	+11.45	— 0.10
Means.	—35.64	—35.64	± 0.00	—11.72	—11.72	± 0.00	+12.77	+12.77	± 0.00

In December the differences between the computed temperatures of the air and the computed temperatures of the dew-point are as follows:

0^h	2	4	6	8	10	Noon.	2^h	4	6	8	10	Mean.
7°.97	8°.00	6°.86	6°.06	7°.00	8°.07	7°.55	6°.83	7°.67	8°.87	9°.61	7°.85	7°.69

The greatest difference, of 9°.61, occurs at 8^h p. m., while the smallest, of 6°.06, is found at 6^h a. m., giving a range of 3°.55, which, at Polaris Bay, was but 1°.03 during the same month. The curve passes through the absolute maximum of —15°.48 at about 6^h a. m. and through the absolute minimum of —19°.03 at about 6^h p. m., oscillating between several relative maxima and minima. The maximum and minimum temperatures during this month occur at midnight and 2^h p. m., respectively.

In January the differences between the computed temperatures of the air and those of the dew-point are as follows:

0^h	2	4	6	8	10	Noon.	2^h	4	6	8	10	Mean.
10°.60	9°.79	9°.70	10°.08	10°.21	9°.99	9°.94	10°.34	10°.96	11°.52	11°.78	11°.47	10°.53

The curve passes through the absolute maximum of —39°.20 at about noon and through the absolute minimum of —40°.77 between 8^h and 9^h p. m., exhibiting a range of 1°.57, being by 1°.98 less than during the preceding month. Besides the absolute maximum and minimum there are several relative maxima and minima, as a glance at the general table will readily show. The maximum and minimum of temperature are reached at 6^h p. m. and 6^h a. m., respectively.

For February the following differences between the computed temperatures of the air and the computed temperatures of the dew-point were deduced:

0^h	2	4	6	8	10	Noon.	2^h	4	6	8	10	Mean.
11°.55	10°.86	10°.86	10°.02	9°.96	8°.20	7°.69	8°.79	10°.05	10°.74	11°.40	10°.95	10°.17

The maximum temperature of the dew-point of —34°.21 is reached at 11^h a. m., while the curve passes through the minimum of —36°.65 between 5^h and 6^h a. m., thus exhibiting a range of 2°.44, being somewhat greater than during the preceding month. The maximum and minimum of temperature are reached at 8^h a. m. and 8^h p. m., respectively.

In March the differences under consideration are as follows:

0^h	2	4	6	8	10	Noon.	2^h	4	6	8	10	Mean.
11°.28	10°.56	9°.97	10°.46	11°.28	12°.13	10°.55	10°.19	10°.08	10°.00	10°.30	10°.03	10°.65

The greatest difference of 12°.13 occurs at 10^h a. m., while the smallest, of 9°.97, is reached at 4^h a. m., giving a range of 2°.13. The curve representing the diurnal fluctuation of the dew-point passes through the maximum and minimum at 2^h p. m. and 10^h p. m., respectively, closely coinciding in regard to time with the maximum and minimum of temperature.

For April we get the following differences:

0^h	2	4	6	8	10	Noon.	2^h	4	6	8	10	Mean.
6°.61	6°.66	6°.99	6°.96	7°.09	7°.80	7°.99	6°.82	5°.72	6°.17	7°.29	7°.70	6°.98

It will be seen that the greatest difference between the temperature of the dew-point and that of the air occurs at noon, and the least at 4^h p. m. The range during this month is 2°.25, being a little greater than during March. The maximum and minimum temperatures of the air during the period in question occur at 10^h a. m. and 2^h a. m., respectively, while the maximum and minimum of the dew-point are reached at 3^h p. m. and 2^h a. m., respectively; the minima of the two elements coinciding in regard to time, while the maximum temperature of the air is reached five hours previous to the maximum temperature of the dew-point.

In May the differences under consideration are as follows:

0^h	2	4	6	8	10	Noon.	2^h	4	6	8	10	Mean.
6°.82	7°.16	7°.11	6°.99	7°.13	7°.41	7°.60	7°.58	7°.35	6°.75	6°.33	5.°84	7°.01

During this month we observed, for the first time in this season, the temperature of the dew-point to be above zero. The diurnal curve passes through the absolute maximum of 13°.64 at about 9^h a. m. and through the absolute minimum of 10°.77 at 1^h a. m., thus exhibiting a range of 2°.87, being 0°.91 less than that of the temperature of the air. The maximum temperature of the air occurs at noon, while the minimum is reached at midnight.

The following table contains the correction to be applied to any hourly observation taken at Polaris House to obtain the mean temperature of the dew-point of the day:

Corrections to be applied to any hourly observation taken at Polaris House to obtain the mean temperature of the dew-point of the day.

Time.	November.	December.	January.	February.	March.	April.	May.
	°	°	°	°	°	°	°
0^h	− 0.21	− 1.13	− 0.51	+ 0.52	+ 0.84	+ 4.49	+ 2.66
1	0.60	1.20	− 0.14	1.40	1.14	4.25	2.29
2	− 0.05	0.21	+ 0.01	0.65	1.06	3.46	1.42
3	+ 0.15	1.17	− 0.35	1.03	0.91	3.32	1.22
4	0.27	1.19	+ 0.13	0.77	0.05	2.95	+ 0.56
5	0.13	0.36	− 0.43	+ 0.93	0.10	1.84	− 0.03
6	0.18	1.21	+ 0.02	− 0.43	+ 0.97	+ 0.68	0.07
7	+ 0.07	0.16	± 0.00	1.14	− 0.09	− 0.29	1.52
8	− 0.56	0.73	− 1.40	0.16	− 0.49	2.28	1.62
9	0.17	0.63	0.58	0.92	+ 0.10	2.75	1.59
10	0.18	− 0.78	0.93	0.73	− 0.63	1.77	1.07
11	0.63	+ 1.23	0.44	1.80	1.31	3.09	1.50
Noon.	0.79	0.33	0.51	0.82	2.27	2.96	1.21
1^h	0.56	0.17	0.20	0.37	2.71	2.83	0.80
2	0.59	+ 0.26	− 0.39	0.48	2.69	3.02	0.85
3	0.48	− 0.34	+ 0.19	0.46	1.25	2.96	0.77
4	0.51	+ 0.94	0.16	− 0.12	1.64	2.22	0.15
5	0.31	1.06	0.40	+ 0.92	1.30	1.64	0.20
6	− 0.16	0.97	0.52	− 0.13	− 0.37	− 0.74	0.07
7	+ 0.39	1.17	1.15	− 0.86	+ 0.71	+ 0.14	0.02
8	1.10	1.36	1.15	+ 0.90	1.67	0.66	− 0.05
9	0.95	0.80	1.29	1.52	2.04	1.60	+ 0.71
10	1.12	0.02	0.21	+ 1.09	2.32	1.26	1.12
11	+ 1.54	+ 0.82	+ 0.30	− 0.12	+ 2.79	+ 2.01	+ 1.44

ATMOSPHERIC PRECIPITATION.

For measuring the amount of rain and snow, two ombrometers were used, one supplied by the United States Signal-Service Weather Bureau and the other by the Smithsonian Institution. The former consisted of a copper cylinder about 18 inches long and 3 inches in diameter, provided with a funnel whose diameter was four times as great as that of the cylinder. The Smithsonian gauge consisted of a plain cylindrical tube of tin, 12 inches long and 3½ inches in diameter. Since the difficulties to be contended with in the measurement of very small quantities of rain-fall with any degree of accuracy are very great, various methods of proceeding were adopted.

During our residence at Polaris Bay the larger rain-gauge was always in use, being placed in an open space 30 yards east-northeast of the observatory, either resting directly upon the ground or elevated upon an overturned boat, whose height was scarcely 18 inches. If the snow-fall was accompanied by wind, then the snow was not caught in the gauge itself but collected from the surface of a board, which was brushed clean after every fall. The funnel was removed from the cylinder and the latter was turned over, mouth downward, and pressed against the board; a sheet of stiff paper was then slipped under the mouth of the cylinder, and the latter raised from the board. This process was repeated more or less frequently according as the quantity of snow was small or large; then the measure was placed either in warm water or near the stove until the snow was completely melted. The measurement was made by means of a wooden rod which was dipped into the collector and allowed of correct readings to the hundredth part of an inch. Of course, the result thus obtained had to be divided by the number of times the cylinder had been dipped in the snow, as above explained. In taking each mean the third decimal was retained. During our second winter the smaller rain-gauge, furnished by the Smithsonian Institution, was made use of. The following table contains the observed quantities of moisture precipitated. Besides the number of hours during which it rained or snowed, the character of the fall is also given: *l* indicates a light and *h* a heavy snow-fall. The next column indicates the quantity of snow in English inches. Whenever, in this column, a query is found, it is intended thereby to denote that the quantity was imperceptible or immeasurably small. The next nine columns show the wind that was blowing at each hour at which precipitation occurred, including calms. The last column contains the mean velocities of the winds.

Date.		Number of hours.	Character.	Amount.	Direction of wind.									Mean velocity.
					N.	N. E.	E.	S. E.	S.	S. W.	W.	N. W.	Calm.	
1871.														
November	6	10	l.	?						9			1	7
	9	17	l.	?	1		9	4					3	4
	18	2	l.	?		2								1
	26	6	l.	?		6								10
December	13	2	l.	?							1		1	0.5
	14	2	l.	?			1						1	1
	24	3	l.	?		2							1	5
1872.														
January	8	4	l.	?			3						1	2
	13	1	l.	?			1							5
	15	5	l.	?			2			2			1	5
	20	5	l.	?					1	1	2		1	5
	21	5	l.	?					1	3		1		10
	22	7	l.	?			1			6				9
	23	1	l.	?			1							15
February	19	3	l.	?								3		11
	20	1	l.	?		1								30
	21	1	l.	?		1								3
	25–26	17	l.	0.195			1	6	3	1			6	3
March	26–27	15	l.	0.007			10	3					2	3
	27–28	24	l.	0.013			2	2			1		19	2
	28	2	l.	0.002									2	0
	30	7	l.	0.014			5	1					1	2
	30–31	14	12 l., 2 h.	0.020			1	4			1	2	6	3
April	1	9	l.	0.002				8					1	3
	1–2	5	l.	0.001							4	5		4
	5	5	l.	?								1	4	3
	7–8	16	l.	0.066		3	11	1					1	5
	8–9	17	l.	0.012		1		4				2	10	2
	9–10	23	l.	0.003			3	2					18	3
	10–11	19	l.	0.023			4	1					14	3
	11–12	11	l.	0.010		2	3	3					3	3
	12–13	8	l.	0.006			5	1					2	3
	14	3	l.	?				3						3
	21	6	l.	?			1	1		2			2	4
	23	4	h.	?						3	1			16
	24–25	18	l.	?		7	2	2		4			3	12
May	4	1	h.	?		1								16
	13–14	6	l.	?				1	1	3			1	4
	15	3	l.	?						3				8
	16	3	l.	?						3				10
	23–24	12	l.	?		6	2		1			1	2	8
	26–27	5	l.	?						5				8
	27–28	3	l.	?						3				8
June	11	9	l.	?						9				10
	14	1	l.	?									1	0
	18	5	l.	?						5				11
July	14	5	h.	0.044						5				16
	14–15	2	l. r.	?						2				7
	16–17	13	l. r. and s.	0.122			3				6	1	3	2
	18	2	l. r.	?						2				7
	20	2	l. r.	?								2		2
	23	9	l. r.	?				3			4		2	2
	24	5	l. r.	?	3	2								3
	30	12	l. and h. r.	0.197		6			1	4	1			9
August	3	6	l.	?		5							1	3
	22	9	l. r.	?		1				8				7

The following table contains the condensed result of the preceding record:

Months.	Direction of wind.									Total hours.	Amount of precipitation.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.		
											Inches.
November, 1871	1	8	9	4	......	9	......	......	4	35	?
December	......	2	1	......	......	......	1	......	3	7	?
January, 1872	......	......	8	......	2	12	2	1	3	28	?
February	......	2	1	6	3	1	......	3	6	22	0.195
March	......	......	17	11	......	......	2	2	30	62	0.056
April	......	13	29	26	......	9	5	8	58	148	0.063
May	......	7	2	1	2	17	......	1	3	33	?
June	......	......	......	......	......	14	......	......	1	15	?
July	3	8	3	3	1	13	11	3	5	50	0.363
August	......	6	......	......	......	8	......	......	1	15	?
Sums	4	46	70	51	8	83	21	18	114	415	0.677

The greatest amount of precipitation is recorded in July, amounting to $0^{in}.363$ during 50 hours, consisting mostly of rain.

Besides the amount of precipitation that could be measured by means of a gauge, we noticed, sometimes, that deposits of hoar-frost on exposed objects took place, or that the atmosphere was apparently filled with minute ice-crystals. The notes bearing upon this subject, as extracted from the meteorological register, run thus:

December 23, 1871, noon to 9^h p. m.: Cloud consisting of minute ice-particles sweeping over the ground.

December 24, 10^h a. m.: Cloud consisting of minute ice-particles sweeping over the ground; stars overhead visible.

December 26, 2^h and 3^h a. m.: Cloud consisting of minute ice-particles sweeping over the ground.

January 3, 1872, 6^h p. m.: Deposit of fine ice-crystals. Wind, east.

January 7, 1^h a. m.: Very fine precipitation of vapor, not sensible to the eye. Wind, east.

January 8, $11^h 30^m$ a. m. to $12^h 30^m$: Precipitation of vapor, not sensible to the eye. Calm.

January 23, 8^h and 9^h a. m.: Very light precipitation of vapor. Calm.

January 24, 3^h p. m.: Deposit of fine ice-crystals. Wind, east.

January 27, 1^h and 2^h p. m.: Light precipitation of vapor. Wind, northeast.

January 28, 9^h and 10^h a. m.: Light precipitation of vapor. Calm.

February 2, 11^h p. m.: Light precipitation of vapor; stars very bright. Calm.

February 6, 8^h, 9^h, and 10^h a. m.: Cloud consisting of minute ice-crystals sweeping over the ground. Wind, southeast.

February 9, 6^h p. m.: Cloud consisting of minute ice-crystals sweeping over the ground. Calm.

February 10, 5^h p. m.: Deposit of minute ice-crystals on exposed objects. Calm.

February 12, 9^h, 10^h, and 11^h a. m.: Light precipitation of ice-spiculæ. Wind, northeast.

February 21, 6^h, 7^h, and 8^h a. m.: Cloud of dense vapor. Wind, east; at 8^h, calm.

March 5, 4^h a. m.: Light precipitation of ice-spiculæ. Wind, southwest.

March 13, 1^h p. m.: Light precipitation of ice-spiculæ. Calm.

March 29, 4^h a. m. to 12^h (noon): Deposit of ice-crystals on exposed objects; wind, east-southeast, and calm. 7^h p. m.: Deposit of ice-crystals on exposed objects. Wind, southeast.

March 30, 4^h and 5^h a. m.: Deposit of ice-crystals on exposed objects. Wind, east.

March 31, noon: Deposit of ice-crystals on exposed objects. Wind, southeast.

April 2, 7^h a. m.: Deposit of ice-crystals on exposed objects; calm. 2^h and 3^h p. m.: Deposit of ice-crystals on exposed objects. Wind, east and northeast.

April 3, 3^h to 9^h a. m.: Deposit of ice-crystals on exposed objects. Calm.

April 6, 1^h to 3^h a. m.: Deposit of ice-crystals on exposed objects. Wind, northwest.

April 19, 5^h p. m.: Deposit of ice-crystals on exposed objects. Wind, southeast.

April 15, 11^h a. m.: Precipitation of fine ice-crystals. Calm.

May 16, 6^h p. m. to midnight: Fine ice-crystals falling. Calm.

May 17, midnight to 4^h a. m.: Fine ice-crystals falling. Calm.

The following observations were made at Polaris House; the mode of observation is the same as stated before:

Date.		Number of hours.	Character.	Amount.	Direction of wind. N.	N. E.	E.	S. E.	S.	S. W.	W.	N. W.	Calm.	Mean velocity.
1872.														
November	2	15	l., h., and ?	?						14			1	20
	3	6	4 l. and 2 ?	?					6					15
	4	7	l.	0.082									7	0
	5	5	l.	0.075		5								10
	7–8	9	l.	0.076	1	1	2						5	3
	13	21	9 l., 4 h., 8 ?	?						13			8	27
	14	7	l.	?						7				22
	16	2	l.	0.043				1	1					3
	17	2	l.	0.018	2									22
	29–30	21	l.	0.105		21								7
December	4	4	l.	0.019		4								9
	7	1	l.	?									1	0
	8–9	9	l.	0.098	6					3				6
	28	7	l.	0.180		6							1	12
1873.														
January	4	2	l.	0.016									2	0
	6–7	7	l.	0.027									7	0
	7–8	16	l.	0.065					9				7	9
	8–9	10	7 l., 3 ?	0.041					2	4			4	7
	9–10	2	l.	?						2				11
	10–11	8	l.	0.085		3				3			2	6
	13	3	l.	0.060									3	0
	20–21	2	l.	0.001		1							1	6
February	4	6	l.	0.045	2								4	2
	5	6	l.	0.063	2								4	2
	7	6	l.	0.056									6	0
	7–8	8	l.	0.060						2			6	7
	8	3	l.	?					1				2	3
	11	3	l.	?		1	2							4
	11–12	5	l.	?					4				1	5
	22	10	l.	0.039	1	4							5	6
	22–23	15	l.	0.043		3							12	6
	23–24	12	l.	0.054			1						11	4
March	12	1	l.	0.025						1				2
	15	2	l.	0.031									2	0
	16	6	l.	0.030									6	0
	31	2	l.	0.008									2	0
April	4	3	l.	0.009									3	0
	13–14	10	l.	0.028		8				1			1	6
	14–15	16	l.	0.126				2		10			4	8
	28–29	12	l.	0.087		8							4	8
	29–30	23	l.	0.250		12							11	6
May	1	5	l.	0.052									5	0
	1–2	10	l.	0.054									10	0
	2–3	24	l.	0.098		4	5			8			7	8
	3–4	13	2 h., 11 l.	?					1	12				7
	4	8	l.	0.036						8				10
	5	2	l.	0.001									2	0
	9	13	l.	?		10		1					1	14
	10–11	5	l.	0.045						3	1		1	2
	11–12	14	l.	0.047					2	12				7
	13–14	14	l.	0.032									14	0
	14–15	9	l.	0.009					1	3			5	5

During the following days the occurrence of precipitation was noticed, too slight, however, to be measured:

December 6, 1872, 2h a. m. to 3h p. m.: Deposit of fine ice-crystals on exposed objects. Wind, calm and northeast.

December 24, 7h p. m.: Precipitation of minute ice-spiculæ. Calm.

January 2, 1873, noon to 3h p. m.: Deposit of fine ice-crystals on exposed objects. Calm.

January 5, 2h p. m.: Cloud of minute ice-crystals sweeping over the ground. Calm.

January 9, 4h a. m.: Cloud of minute ice-crystals sweeping over the ground. Wind, southwest.

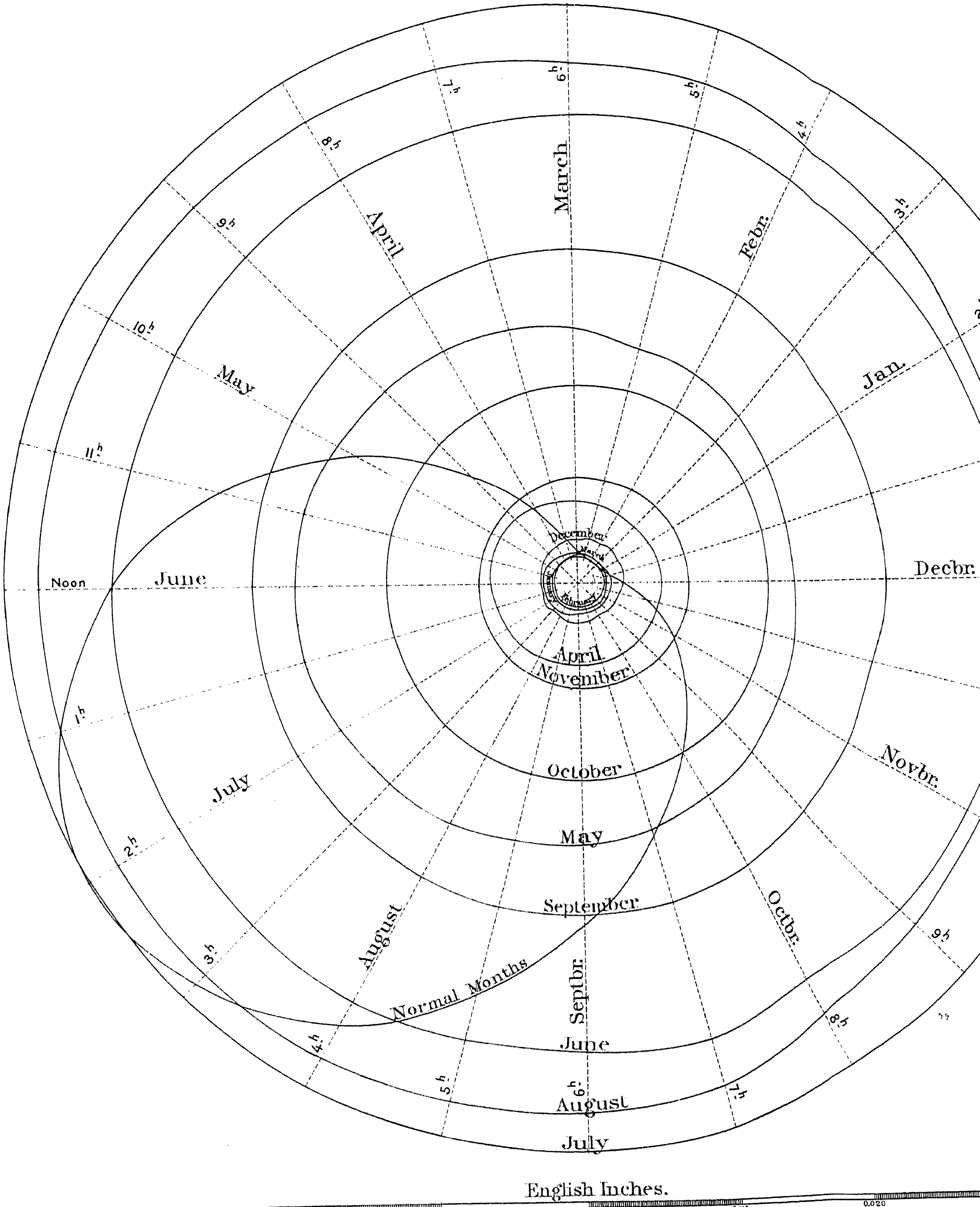
February 6, 3h a. m.: Precipitation of minute ice-spiculæ. Calm.

The following table contains the condensed result of the record kept at Polaris House:

Months.	Direction of wind.									otal h ours.	Amount of precipitation.
	N.	N. E.	E.	S. E.	S.	S. W.	W.	N. W.	Calm.		
											Inches.
November, 1872	3	27	2	1	7	34	......	......	21	95	0. 399
December	6	10	......	......	......	3	......	......	2	21	0. 297
January, 1873	......	4	......	......	11	9	......	......	26	50	0. 295
February	5	8	3	......	5	2	......	......	51	74	0. 360
March	......	......	......	......	......	1	......	......	10	11	0. 094
April	......	28	......	2	......	11	......	......	23	64	0. 500
May	......	14	5	1	4	46	1	......	45	117	0. 374
Sums	14	91	10	4	27	107	1	0	178	432	2. 319

A comparison of the number of hours during which atmospheric precipitation occurred at Polaris House and at Polaris Bay will show what we might have expected *a priori*. During the seven months in question, it snowed at the former station during 432 hours and at the latter during 335 only. While the amount of snow measured at Polaris Bay from November, 1871, till June, 1872, is $0^{in}.314$ only, that measured at Polaris House is $2^{in}.319$, if expressed in volume of water. The maximum of snow-hours at Polaris Bay was noted in April, viz, 148, and at the other station in May, viz, 117; the amount of snow corresponding to both periods is $0^{in}.063$ and $0^{in}.374$, respectively. The minimum of snow-hours of any month is 7 hours at Polaris Bay (December, 1871), and at Polaris House it is 11 hours (March, 1873).

It is true that the amount of snow could not always be ascertained accurately. If we should assume that the amount which actually fell at Polaris Bay was double that measured (though that assumption would be too great), and should, therefore, double the value previously given, it would still only give $1^{in}.354$, including the rain that fell during July and August. That, under such circumstances, the glacial period of Northern Greenland cannot approach a maximum, but that the glaciers must be on their decline, is evident. In the next volume, containing, among others, the geological results, we shall dwell at greater length on this subject.



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ATMOSPHERIC PRESSURE.

RECORD AND DISCUSSION OF THE OBSERVATIONS ON ATMOSPHERIC PRESSURE MADE AT POLARIS BAY.

In connection with the observations on winds, recorded in the preceding part, we shall now give those on atmospheric pressure. The hours of observation are the same as mentioned before, and all the omissions occurring in the preceding observations also occur here.

The instruments used were of different character and manufactured by different makers. We had three large aneroids, two of which were made by Casella and the other by Beck, London; three marine-barometers by Adie, reading to $0^{in}.005$, and three standard barometers, of Fortin's construction, manufactured by Green, reading to $0^{in}.002$. Besides the instruments mentioned, the expedition was supplied with a number of very superior pocket-aneroids by Green, Beck, and Casella, which, however, were only used by traveling parties or for deducing the refraction in connection with the temperature for astronomical purposes. When at sea on our way north in 1871, the Adie and one of the aneroids were read, which were kept on the after-deck in the same louver-boarded box containing the rest of the meteorological instruments. The cistern of the Adie was about nine feet above the surface of the sea, the aneroid being on the same level. In some instances this height may have varied more or less, according to the quantity of coal and provisions on board the vessel. After our arrival at Polaris Bay the three Fortins* were hung up on the western wall of the observatory, thirty-four feet above the level of the sea and at the height of the eye. In order to protect the instruments from the direct radiation of the warm stove, a small oblong box, somewhat longer and a little broader than the barometer, was firmly secured against the wall behind each instrument. The barometers were suspended on heavy rods about five inches long, on which the suspending-rings might slide with ease, the rods being turned up at the ends to prevent the instruments from slipping off. The barometers remained in the box, the door of which was kept closed until the time of observation, when it was opened and the barometer to be read taken by the upper end of the tube and moved toward the free end of the rod—that is, toward the observer. No special precaution was taken to secure perfect perpendicularity of the instruments, they being constructed in such a manner as to take their equilibrium themselves. When the ivory point in the cistern was brought in contact with the surface of the mercury, artificial light was used, either a short candle or a small oil-lamp, made for the purpose. In taking the reading and making the adjustment the usual precautions were taken. In the course of the winter the mercury contained in the cisterns of the different instruments had to be cleaned repeatedly, in which instances the respective barometers were compared with others before and after the performance of the operation.

From November 6, 1871, till June 22, 1872, Green's barometer No. 947 was read; if other instruments were made use of, their readings were referred to the barometer above mentioned. Before leaving Washington City, Mr. Meyer compared another barometer, supplied by the Signal-Office, and also manufactured by Green, with the standard at the United States Naval Observatory. After our arrival at winter-quarters the corrections of the other barometers were ascertained by means of the instrument compared by Mr. Meyer with the standard at Washington. As these comparisons were lost, we deduced the correction of Green's No. 947 for a mean atmospheric pressure of $29^{in}.5$, which was found to be $+0^{in}.051$. We managed to bring this instrument back to

* For the description of the Fortin-Green barometer, compare Smithsonian Miscellaneous Collections (148), Directions for Meteorological Observations, and the Registry of Periodical Phenomena. Washington: Government Printing Office, 1872.

Washington, and through the kindness of the Superintendent of the United States Naval Observatory, we were enabled to take a number of comparisons with the standard above mentioned. The corrections, as deduced subsequent to our return, are:

At inches.	Correction.
30.4	+0.040
30.0	+0.042
29.8	+0.045
29.5	+0.053

As the greater number of our observations had already been reduced at winter-quarters with the application of +0in.051 as correction, no use was made of the above figures, the mean correction, as found subsequent to our return, differing only by —0in.006 from that first applied.

From June 22, when the vessel was freed from the ice, Casella's aneroid No. 1240 was used. This instrument being divided to 0in.010, the divisions are large enough to enable the observer to estimate, by means of a magnifier, with some degree of certainty, the tenth part of a division, thus giving a very satisfactory result. Whenever an opportunity offered the aneroid was compared with one of the mercurial instruments, and corrected accordingly.

The following record contains the reduced hourly observations. Those made with the mercurial barometer were referred to the temperature of the freezing-point of water by means of the Smithsonian Meteorological Tables. Besides this, the observations were corrected for an elevation of thirty-four feet and for the temperature of the air. The following table, having as vertical argument the height of the barometer and as horizontal argument the temperature of the air, was used for this purpose:

Height of barometer.	Temperature of the air.									
	—50°	—40°	—30°	—20°	—10°	±0°	+10°	+20°	+30°	+40°
Feet.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
29.0	+0.046	+0.045	+0.044	+0.042	+0.041	+0.040	+0.039	+0.038	+0.037	+0.036
29.5	0.047	0.046	0.044	0.043	0.042	0.041	0.040	0.039	0.038	0.037
30.0	0.048	0.047	0.045	0.044	0.043	0.042	0.041	0.040	0.039	0.038
30.5	+0.049	+0.048	+0.046	+0.045	+0.044	+0.043	0.042	+0.041	+0.040	+0.039

If it should be considered desirable to refer any one of the following observations up to June 22, 1872, to the original reading, as corrected for temperature by means of the Smithsonian Tables, it will only be found necessary to take the corresponding thermometer-reading from the record of the temperature of the air and to subtract the correction due to the same from the value under consideration. The aneroid observations are only corrected for index-error. No correction was applied for the influence of gravity, and as the instrument used was compensated, a correction for temperature was deemed unnecessary.

Date.	NOVEMBER, 1871.											
Time.	1	2	3	4	5	6	7	8	9	10	11	12
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	....	....	....	....	....	....	30.219	30.225	29.868	30.398	30.495	30.494
1	....	....	....	....	....	....	30.248	30.222	29.869	30.401	30.499	30.586
2	....	....	....	....	....	....	30.265	30.215	29.876	30.417	30.512	30.464
3	....	....	....	....	....	....	30.272	30.219	29.925	30.410	30.534	30.464
4	....	....	....	....	....	....	30.264	30.224	29.998	30.413	30.529	30.452
5	30.306	30.314	30.520	30.672	30.533	29.998	30.284	30.205	30.010	30.416	30.536	30.394
6	....	....	....	....	....	....	30.298	30.199	30.056	30.420	30.548	30.367
7	....	....	....	....	....	....	30.298	30.166	30.060	30.424	30.525	30.351
8	....	....	....	....	....	....	30.310	30.163	30.027	30.409	30.537	30.330
9	....	....	....	....	....	30.103	30.418	30.134	30.044	30.410	30.660	30.322
10	....	....	....	....	....	30.112	30.328	30.111	30.064	30.401	30.538	30.311
11	....	....	....	....	....	30.117	30.375	30.104	30.081	30.414	30.541	30.271
Noon.	....	....	....	....	....	30.136	30.317	30.067	30.103	30.396	30.549	30.214
1^h	....	....	....	....	....	30.194	30.287	30.028	30.139	30.425	30.548	30.219
2	30.328	30.519	30.601	30.611	30.227	30.173	30.265	30.000	30.179	30.423	30.554	30.220
3	....	....	....	....	....	30.160	30.278	29.982	30.222	30.463	30.503	30.185
4	....	....	....	....	....	30.143	30.275	29.958	30.253	30.449	30.523	30.198
5	....	....	....	....	....	30.159	30.279	29.967	30.277	30.464	30.537	30.144
6	....	....	....	....	....	30.138	30.260	29.971	30.299	30.452	30.540	30.116
7	....	....	....	....	....	30.147	30.238	29.943	30.339	30.554	30.526	30.121
8	....	....	....	....	....	30.140	30.246	29.949	30.325	30.463	30.513	30.089
9	....	....	....	....	....	30.166	30.252	29.951	30.359	30.471	30.509	30.084
10	....	....	....	....	....	30.181	30.262	29.958	30.388	30.495	30.496	30.072
11	30.314	30.527	30.625	30.662	29.990	30.203	30.254	29.966	30.391	30.489	30.520	30.055
Means..	30.3172	30.4481	30.5910	30.6517	30.1929	30.1431	30.4080	30.0800	30.1313	30.4412	30.5323	30.2718

Date.	NOVEMBER, 1871.											
Time.	13	14	15	16	17	18	19	20	21	22	23	24
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	30.040	30.179	30.336	30.343	30.319	30.387	30.160	29.966	....	....	....	....
1	30.043	30.170	30.337	30.321	30.321	30.398	30.144	29.966	....	....	....	....
2	30.040	30.162	30.344	30.292	30.337	30.392	30.141	29.983	....	....	....	....
3	30.043	30.190	30.354	30.286	30.352	30.378	30.139	29.959	....	....	....	....
4	30.042	30.213	30.362	30.258	30.354	30.372	30.121	29.965	....	....	....	....
5	30.024	30.228	30.379	30.254	30.348	30.354	30.148	29.972	....	....	....	....
6	30.023	30.237	30.384	30.177	30.371	30.352	30.162	30.044	....	....	....	....
7	30.020	30.233	30.372	30.165	30.366	30.335	30.141	30.025	30.099	....	30.435	30.197
8	30.012	30.237	30.380	30.169	30.400	30.314	30.121	30.048	....	....	....	....
9	30.008	30.244	30.401	30.138	30.391	30.304	30.120	30.046	....	....	....	....
10	30.017	30.279	30.396	30.141	30.409	30.285	30.114	30.023	....	....	....	....
11	30.064	30.286	30.400	30.147	30.412	30.254	....	....	....	....	....	....
Noon.	30.017	30.274	30.412	30.140	30.425	30.236	....	....	....	....	....	....
1^h	30.026	30.292	30.412	30.114	30.440	30.226	....	....	....	....	....	....
2	30.025	30.272	30.432	30.183	30.425	30.242	30.038	30.172	....	30.297	30.466	30.144
3	30.034	30.275	30.424	30.204	30.427	30.212	....	....	....	....	....	....
4	30.039	30.269	30.426	30.214	30.424	30.212	....	....	....	....	....	....
5	30.060	30.289	30.428	30.256	30.426	30.209	....	....	....	....	....	30.088
6	30.066	30.302	30.386	30.258	30.403	30.209	....	....	....	....	....	30.091
7	30.092	30.320	30.371	30.261	30.416	30.174	....	....	....	....	....	30.076
8	30.103	30.321	30.391	30.270	30.410	30.161	....	....	....	....	....	30.043
9	30.116	30.229	30.361	30.284	30.464	30.138	....	30.151	....	30.338	30.385	30.021
10	30.142	30.328	30.360	30.299	30.420	30.116	29.945	....	....	....	....	30.003
11	30.161	30.336	30.367	30.315	30.417	30.137	29.945	....	....	....	....	29.999
Means..	30.0517	30.3861	30.3840	30.2288	30.3952	30.2671	30.0256	30.0638	30.2027	30.3122	30.4691	30.0384

Date.	NOVEMBER, 1871.						DECEMBER, 1871.					
Time.	25	26	27	28	29	30	1	2	3	4	5	6
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	29.977	29.790	30.086	29.971	29.673	30.395	30.530	30.307	30.193	29.866	29.552	30.066
1	29.971	29.851	30.083	29.946	29.720	30.355	30.536	30.310	30.184	29.882	29.547	30.088
2	29.952	29.870	30.090	29.910	29.713	30.380	30.531	30.313	30.156	29.886	29.571	30.115
3	29.954	29.902	30.098	29.875	29.764	30.368	30.517	30.316	30.138	29.861	29.565	30.144
4	29.951	29.918	30.088	29.820	29.892	30.341	30.513	30.332	30.122	29.828	29.578	30.172
5	29.929	29.950	30.072	29.762	29.982	30.359	30.521	30.341	30.112	29.832	29.578	30.199
6	29.909	29.965	30.068	29.890	30.048	30.367	30.529	30.323	30.110	29.805	29.599	30.226
7	29.887	29.963	30.064	29.632	30.134	30.367	30.501	30.332	30.093	29.782	29.602	30.246
8	29.864	29.982	30.060	29.564	30.195	30.367	30.484	30.342	30.080	29.734	29.638	30.261
9	29.867	29.982	30.045	29.516	30.250	30.388	30.410	30.334	30.076	29.660	29.663	30.316
10	29.864	29.997	30.070	29.450	30.351	30.387	30.401	30.335	30.074	29.700	29.690	30.342
11	29.853	30.001	30.063	29.385	30.342	30.410	30.366	30.336	30.067	29.671	29.697	30.369
Noon.	29.830	29.994	30.055	29.314	30.392	30.424	30.272	30.337	30.065	29.625	29.685	30.388
1^h	29.813	30.000	30.060	29.242	30.419	30.425	30.313	30.339	30.064	29.622	29.692	30.398
2	29.813	30.013	30.078	29.165	30.445	30.438	30.354	30.340	30.060	29.634	29.734	30.412
3	29.856	30.024	30.082	29.159	30.459	30.457	30.395	30.334	30.051	29.631	29.773	30.431
4	29.800	30.043	30.065	29.163	30.463	30.476	30.379	30.328	30.023	29.613	29.801	30.451
5	29.772	30.060	30.076	29.174	30.474	30.497	30.363	30.322	30.013	29.600	29.838	30.445
6	29.765	30.066	30.051	29.233	30.476	30.504	30.347	30.314	29.999	29.560	29.877	30.447
7	29.755	30.070	30.049	29.276	30.463	30.511	30.329	30.307	29.988	29.536	29.929	30.456
8	29.773	30.080	30.024	29.348	30.427	30.519	30.312	30.302	29.937	29.553	29.978	30.454
9	29.780	30.082	30.012	29.411	30.423	30.537	30.296	30.295	29.926	29.527	29.980	30.444
10	29.792	30.074	29.995	29.498	30.417	30.533	30.299	30.261	29.908	29.524	30.019	30.422
11	29.774	30.082	29.982	29.590	30.417	30.528	30.303	30.227	29.877	29.553	30.049	30.414
Means..	29.8548	30.0319	30.0588	29.5122	30.2222	30.4306	30.4084	30.3178	30.0548	29.6869	29.7348	30.3211

Date.	DECEMBER, 1871.											
Time.	7	8	9	10	11	12	13	14	15	16	17	18
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	30.388	30.211	29.707	29.670	29.411	29.337	29.314	29.456	29.561	29.920	30.350	29.956
1	30.387	30.207	29.685	29.665	29.390	29.338	29.307	29.480	29.560	29.940	30.337	29.936
2	30.382	30.198	29.668	29.662	29.399	29.348	29.306	29.462	29.600	29.962	30.309	29.928
3	30.386	30.202	29.656	29.646	29.404	29.352	29.315	29.491	29.639	29.989	30.326	29.901
4	30.353	30.177	29.616	29.655	29.388	29.358	29.303	29.509	29.539	30.009	30.331	29.892
5	30.337	30.062	29.605	29.661	29.377	29.373	29.304	29.522	29.535	30.039	30.319	29.852
6	30.342	30.045	29.605	29.650	29.378	29.369	29.286	29.547	29.540	30.079	30.338	29.834
7	30.328	30.044	29.586	29.647	29.357	29.363	29.281	29.549	29.538	30.103	30.309	29.817
8	30.335	30.021	29.561	29.624	29.355	29.365	29.272	29.560	29.549	30.121	30.303	29.790
9	30.314	30.101	29.563	29.610	29.346	29.366	29.284	29.371	29.543	30.150	30.296	29.760
10	30.309	30.076	29.577	29.594	29.337	29.362	29.292	29.587	29.557	30.167	30.287	29.734
11	30.290	30.069	29.594	29.562	29.334	29.387	29.291	29.777	29.553	30.185	30.256	29.726
Noon.	30.279	30.036	29.582	29.527	29.320	29.384	29.309	29.582	29.565	30.211	30.232	29.700
1^h	30.269	30.001	29.585	29.511	29.291	29.371	29.326	29.592	29.603	30.229	30.214	29.673
2	30.270	29.986	29.599	29.510	29.281	29.381	29.353	29.589	29.635	30.245	30.181	29.652
3	30.244	29.957	29.622	29.503	29.291	29.377	29.370	29.599	29.670	30.254	30.167	29.620
4	30.248	29.918	29.631	29.447	29.302	29.375	29.384	29.600	29.718	30.272	30.152	29.627
5	30.275	29.919	29.624	29.441	29.307	29.366	29.381	29.586	29.757	30.217	30.123	29.604
6	30.265	29.882	29.624	29.448	29.309	29.369	29.388	29.589	29.795	30.300	30.112	29.585
7	30.249	29.843	29.635	29.447	29.341	29.370	29.395	29.579	29.821	30.338	30.102	29.557
8	30.247	29.823	29.638	29.439	29.334	29.354	29.398	29.583	29.853	30.350	30.084	29.532
9	30.246	29.788	29.640	29.435	29.318	29.343	29.405	29.570	29.868	30.349	30.017	29.506
10	30.227	29.763	29.646	29.423	29.323	29.322	29.426	29.585	29.880	30.340	30.002	29.479
11	30.206	29.745	29.666	29.424	29.330	29.333	29.440	29.567	29.907	30.336	29.971	29.452
Means..	30.2990	30.0031	29.6215	29.5500	29.3426	29.3609	29.3388	29.5555	29.6578	30.1710	30.2133	29.7130

Note: The left hour column is printed in two places: 0 h, and 1 h after noon.

Date.	DECEMBER, 1871.												
Time.	19	20	21	22	23	24	25	26	27	28	29	30	31
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	29.425	29.592	29.860	29.898	29.423	29.120	29.592	29.411	29.588	29.874	29.771	29.579	29.604
1	29.427	29.607	29.861	29.882	29.381	29.224	29.609	29.395	29.597	29.873	29.758	29.564	29.613
2	29.419	29.635	29.873	29.870	29.357	29.241	29.618	29.430	29.609	29.890	29.789	29.558	29.619
3	29.406	29.652	29.870	29.861	29.317	29.241	29.619	29.423	29.600	29.881	29.771	29.576	29.628
4	29.387	29.638	29.857	29.849	29.342	29.269	29.617	29.422	29.635	29.875	29.770	29.615	29.644
5	29.397	29.656	29.851	29.825	29.326	29.293	29.616	29.437	29.644	29.884	29.724	29.610	29.616
6	29.381	29.678	29.862	29.793	29.310	29.326	29.606	29.449	29.661	29.858	29.728	29.562	29.632
7	29.372	29.697	29.872	29.791	29.293	29.338	29.630	29.457	29.764	29.861	29.714	29.544	29.610
8	29.366	29.712	29.868	29.751	29.271	29.339	29.612	29.471	29.702	29.871	29.696	29.555	29.616
9	29.352	29.724	29.866	29.758	29.305	29.386	29.618	29.445	29.747	29.974	29.689	29.552	29.639
10	29.358	29.719	29.873	29.730	29.283	29.385	29.611	29.444	29.768	29.858	29.666	29.555	29.624
11	29.372	29.721	29.878	29.698	29.261	29.412	29.596	29.469	29.794	29.849	29.669	29.555	29.616
Noon.	29.384	29.742	29.873	29.670	29.221	29.425	29.576	29.476	29.797	29.832	29.659	29.573	29.600
1^h	29.385	29.777	29.886	29.652	29.218	29.444	29.553	29.489	29.814	29.794	29.652	29.585	29.603
2	29.412	29.782	29.896	29.627	29.189	29.472	29.539	29.489	29.824	29.761	29.644	29.592	29.618
3	29.421	29.794	29.903	29.627	29.195	29.488	29.591	29.497	29.830	29.743	29.646	29.607	29.617
4	29.451	29.807	29.912	29.607	39.196	29.503	29.559	29.511	29.836	29.701	29.638	29.613	29.620
5	29.489	29.811	29.931	29.554	29.196	29.521	29.547	29.514	29.842	29.713	29.643	29.613	29.621
6	29.505	29.815	29.927	29.536	29.191	29.533	29.535	29.533	29.850	29.744	29.638	29.609	29.618
7	29.522	29.822	29.932	29.534	29.195	29.553	29.454	29.540	29.852	29.753	29.633	29.618	29.599
8	29.529	29.815	29.922	29.518	29.176	29.459	29.389	29.531	29.869	29.794	29.610	29.604	29.595
9	29.534	29.818	29.915	29.500	29.206	29.559	29.409	29.561	29.960	29.802	29.609	29.606	29.589
10	29.555	29.822	29.923	29.480	29.198	29.560	29.367	29.572	29.853	29.798	29.600	29.605	29.587
11	29.572	29.831	29.916	29.460	29.214	29.581	29.385	29.577	29.862	29.785	29.592	29.610	29.580
Means..	29.4342	29.7361	29.8886	29.6863	29.2610	29.4030	29.5520	29.4809	29.7624	29.8237	29.6795	29.5863	29.6126

Date.	JANUARY, 1872.												
Time.	1	2	3	4	5	6	7	8	9	10	11	12	13
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	29.586	29.632	29.610	29.611	29.680	29.676	29.901	29.878	29.748	29.488	29.529	29.700	29.679
1	29.588	29.640	29.575	29.600	29.675	29.669	29.903	29.871	29.719	29.463	29.542	29.687	29.698
2	29.599	29.661	29.603	29.605	29.701	29.664	29.924	29.867	29.721	29.549	29.548	29.677	29.722
3	29.611	29.645	29.606	29.610	29.695	29.674	29.920	29.866	29.718	29.445	29.563	29.643	29.726
4	29.618	29.637	29.591	29.600	29.703	29.679	29.934	29.843	29.728	29.476	29.627	29.642	29.742
5	29.626	29.656	29.609	29.595	29.695	29.681	29.950	29.817	29.688	29.481	29.630	29.637	29.759
6	29.628	29.629	29.592	29.571	29.706	29.698	29.954	29.800	29.689	29.512	29.654	29.642	29.771
7	29.626	29.656	29.581	29.595	29.697	29.685	29.944	29.794	29.645	29.504	29.665	29.645	29.786
8	29.575	29.653	29.587	29.584	29.672	29.687	29.946	29.787	29.651	29.524	29.701	29.631	29.776
9	29.593	29.644	29.594	29.533	29.712	29.704	29.976	29.809	29.674	29.518	29.674	29.616	29.777
10	29.613	29.659	29.588	29.586	29.704	29.698	29.948	29.780	29.669	29.537	29.709	29.621	29.835
11	29.586	29.637	29.603	29.630	29.697	29.720	29.949	29.772	29.654	29.542	29.702	29.614	29.785
Noon.	29.593	29.641	29.589	29.618	29.697	29.740	29.943	29.756	29.669	29.543	29.718	29.610	29.772
1^h	29.609	29.630	29.594	29.614	29.702	29.752	29.938	29.753	29.650	29.543	29.623	29.629	29.778
2	29.595	29.621	29.594	29.614	29.723	29.790	29.933	29.764	29.649	29.535	29.724	29.627	29.762
3	29.676	29.624	29.588	29.615	29.721	29.800	29.928	29.773	29.642	29.531	29.724	29.638	29.771
4	29.683	29.624	29.602	29.629	29.738	29.841	29.923	29.787	29.649	29.517	29.727	29.638	29.765
5	29.633	29.617	29.606	29.631	29.737	29.838	29.918	29.778	29.625	29.511	29.744	29.661	29.797
6	29.619	29.619	29.645	29.646	29.748	29.874	29.913	29.776	29.601	29.549	29.717	29.667	29.753
7	29.619	29.609	29.644	29.650	29.729	29.885	29.908	29.780	29.565	29.522	29.715	29.664	29.772
8	29.632	29.617	29.638	29.663	29.677	29.902	29.903	29.773	29.551	29.565	29.625	29.673	29.731
9	29.632	29.613	29.647	29.665	29.705	29.894	29.898	29.777	29.543	29.559	29.686	29.660	29.719
10	29.624	29.609	29.635	29.661	29.705	29.898	29.893	29.766	29.531	29.546	29.726	29.685	29.689
11	29.630	29.605	29.624	29.671	29.688	29.893	29.885	29.765	29.515	29.530	29.711	29.692	29.671
Means..	29.6164	29.6324	29.6065	29.6165	29.7045	29.7643	29.9263	29.7972	29.6456	29.5204	29.6660	29.6583	29.7098

Date.	JANUARY, 1872.											
Time.	14	15	16	17	18	19	20	21	22	23	24	25
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0h	29.633	29.627	29.849	29.959	30.146	30.319	29.958	29.771	29.767	29.624	29.628	29.406
1	29.632	29.616	29.863	29.976	30.160	30.315	29.969	29.759	29.742	29.647	29.607	29.411
2	29.634	29.633	29.909	29.995	30.173	30.316	29.950	29.748	29.721	29.667	29.589	29.409
3	29.628	29.651	29.891	29.986	30.182	30.317	29.925	29.762	29.693	29.699	29.569	29.410
4	29.619	29.687	29.902	29.991	30.200	30.322	29.906	29.770	29.681	29.636	29.542	29.421
5	29.605	29.711	29.923	29.990	30.206	30.305	29.872	29.780	29.664	29.659	29.538	29.447
6	29.635	29.708	29.927	29.995	30.220	30.308	29.855	29.798	29.647	29.781	29.518	29.473
7	29.655	29.715	29.931	30.005	30.230	30.303	29.848	29.807	29.622	29.782	29.483	29.501
8	29.667	29.733	29.938	29.988	30.231	30.279	29.820	29.808	29.610	29.773	29.486	29.527
9	29.701	29.752	29.942	30.013	30.253	30.261	29.711	29.796	29.604	29.775	29.465	29.554
10	29.737	29.758	29.939	30.021	30.272	30.247	29.796	29.800	29.588	29.791	29.432	29.583
11	29.736	29.745	29.936	30.017	30.270	30.236	29.771	29.805	29.572	29.792	29.428	29.630
Noon.	29.727	29.747	29.934	30.023	30.277	30.221	29.754	29.802	29.566	29.791	29.406	29.635
1h	29.741	29.749	29.944	30.019	30.279	30.191	29.749	29.796	29.564	29.775	29.405	29.680
2	29.732	29.756	29.942	30.043	30.290	30.176	29.744	29.794	29.571	29.756	29.395	29.692
3	29.733	29.773	29.968	30.044	30.300	30.160	29.747	29.788	29.574	29.758	29.391	29.723
4	29.727	29.786	29.982	30.058	30.302	30.146	29.755	29.790	29.579	29.754	29.405	29.729
5	29.690	29.805	29.967	30.055	30.313	30.127	29.755	29.766	29.576	29.735	29.400	29.739
6	29.690	29.813	29.975	30.070	30.319	30.122	29.749	29.794	29.575	29.726	29.390	29.741
7	29.683	29.820	29.963	30.088	30.321	30.001	29.747	29.799	29.587	29.731	29.395	29.753
8	29.686	29.828	29.969	30.094	30.325	30.089	29.756	29.802	29.588	29.718	29.390	29.756
9	29.670	29.845	29.960	30.108	30.338	30.070	29.763	29.806	29.605	29.695	29.426	29.742
10	29.660	29.860	29.971	30.123	30.327	30.039	29.759	29.797	29.606	29.681	29.411	29.757
11	29.652	29.856	29.964	30.132	30.325	30.014	29.760	29.782	29.609	29.659	29.401	29.771
Means..	29.7030	29.7489	29.9370	30.0330	30.2608	30.2035	29.8091	29.7883	29.6214	29.7252	29.4625	29.6038

Date.	JANUARY, 1872.						FEBRUARY, 1872.					
Time.	26	27	28	29	30	31	1	2	3	4	5	6
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0h	29.791	29.958	30.116	29.892	29.594	29.644	29.830	29.784	29.696	29.689	30.017	30.140
1	29.819	29.966	30.122	29.886	29.591	29.658	29.842	29.781	29.686	29.689	30.024	30.140
2	29.819	29.986	30.113	29.869	29.598	29.657	29.838	29.744	29.691	29.693	30.020	30.141
3	29.846	29.991	30.124	29.825	29.594	29.672	29.853	29.728	29.689	29.695	30.042	30.158
4	29.863	29.993	30.144	29.805	29.600	29.671	29.870	29.748	29.685	29.697	30.045	30.170
5	29.880	30.000	30.133	29.770	29.597	29.670	29.841	29.716	29.684	29.703	30.048	30.180
6	29.896	30.004	30.142	29.747	29.598	29.681	29.857	29.717	29.680	29.717	30.054	30.187
7	29.907	30.013	30.133	29.750	29.596	29.693	29.848	29.724	29.676	29.721	30.058	30.197
8	29.917	30.025	30.114	29.753	29.594	29.710	29.840	29.689	29.673	29.726	30.062	30.205
9	29.911	30.036	30.123	29.754	29.604	29.712	29.830	29.735	29.667	29.731	30.067	30.216
10	29.922	30.048	30.123	29.753	29.607	29.692	29.811	29.743	29.674	29.749	30.070	30.201
11	29.929	30.049	30.120	29.699	29.607	29.722	29.827	29.736	29.670	29.748	30.081	30.199
Noon.	29.940	30.067	30.122	29.666	29.607	29.702	29.818	29.727	29.676	29.756	30.081	30.201
1h	29.943	30.067	30.121	29.668	29.608	29.729	29.799	29.718	29.668	29.755	30.085	30.195
2	29.944	30.067	30.100	29.666	29.620	29.723	29.796	29.725	29.671	29.768	30.085	30.190
3	29.947	30.071	30.087	29.668	29.630	29.728	29.806	29.722	29.665	29.786	30.091	30.177
4	29.958	30.084	30.081	29.673	29.639	29.744	29.787	29.718	29.661	29.812	30.099	30.186
5	29.955	30.095	30.063	29.673	29.645	29.742	29.782	29.720	29.651	29.828	30.097	30.191
6	29.965	30.109	30.044	29.656	29.656	29.744	29.768	29.702	29.677	29.850	30.106	30.190
7	29.979	30.118	30.032	29.630	29.667	29.759	29.758	29.706	29.688	29.903	30.133	30.197
8	29.968	30.121	30.010	29.621	29.665	29.821	29.763	29.649	29.695	29.934	30.138	30.197
9	29.956	30.108	29.978	29.599	29.669	29.817	29.777	29.708	29.689	29.963	30.142	30.193
10	29.955	30.110	29.965	29.604	29.649	29.834	29.787	29.696	29.691	29.988	30.135	30.205
11	29.951	30.109	29.910	29.604	29.642	29.840	29.781	29.700	29.689	29.998	30.140	30.169
Means..	29.9150	30.0495	30.0842	29.7179	29.6199	29.7235	29.8045	29.7223	29.5788	29.7875	30.0800	30.1844

Date.	FEBRUARY, 1872.											
Time.	7	8	9	10	11	12	13	14	15	16	17	18
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	30.152	29.903	29.708	29.561	29.592	29.672	30.010	30.010	30.197	29.987	30.099	28.938
1	30.156	29.812	29.645	29.561	29.621	29.672	30.020	30.020	30.190	30.014	30.086	28.906
2	30.162	29.820	29.615	29.554	29.636	29.678	30.016	30.030	30.185	30.058	30.036	28.933
3	30.161	29.803	29.578	29.556	29.627	29.713	30.037	30.140	30.125	30.109	30.020	28.983
4	30.153	29.812	29.561	29.554	29.646	29.744	30.040	30.164	30.154	30.134	29.981	28.990
5	30.143	29.803	29.552	29.542	29.662	29.756	30.046	30.191	30.139	30.155	29.944	29.006
6	30.133	29.790	29.537	29.532	29.667	29.775	30.057	30.193	30.119	30.166	29.910	29.047
7	30.123	29.772	29.524	29.522	29.669	29.795	30.071	30.208	30.098	30.186	29.871	29.077
8	30.111	29.776	29.517	29.512	29.672	29.817	30.082	30.209	30.077	30.198	29.838	29.096
9	30.094	29.773	29.520	29.497	29.640	29.826	30.092	30.205	30.041	30.212	29.791	29.138
10	30.077	29.799	29.532	29.476	29.627	29.835	30.108	30.201	30.024	30.231	29.757	29.204
11	30.072	29.813	29.522	29.467	29.631	29.813	30.109	30.197	29.984	30.237	29.710	29.227
Noon.	30.049	29.816	29.512	29.441	29.632	29.844	30.114	30.196	29.952	30.227	29.652	29.223
1^h	30.021	29.807	29.501	29.462	29.628	29.859	30.125	30.187	29.900	30.230	29.567	29.263
2	30.013	29.785	29.497	29.443	29.624	29.867	30.109	30.180	29.859	30.234	29.495	29.326
3	29.993	29.766	29.514	29.439	29.638	29.881	30.103	30.191	29.817	30.228	29.474	29.382
4	29.973	29.745	29.526	29.412	29.633	29.893	30.093	30.191	29.779	30.224	29.397	29.410
5	29.946	29.727	29.539	29.422	29.611	29.906	30.095	30.196	29.753	30.216	29.358	29.426
6	29.922	29.729	29.549	29.421	29.614	29.911	30.087	30.199	29.773	30.189	29.281	29.448
7	29.909	29.719	29.553	29.447	29.620	29.942	30.076	30.230	29.788	30.195	29.091	29.473
8	29.902	29.712	29.556	29.484	29.641	29.941	30.051	30.213	29.804	30.186	29.097	29.503
9	29.879	29.702	29.554	29.531	29.638	29.968	30.056	30.203	29.854	30.187	29.089	29.502
10	29.872	29.678	29.564	29.542	29.654	29.992	30.054	30.201	29.896	30.188	29.002	29.535
11	29.881	29.653	29.574	29.576	29.659	30.001	30.059	30.201	29.943	30.118	28.827	29.513
Means..	30.0374	29.7715	29.5521	29.4981	29.6368	29.8375	30.0713	30.1732	29.9771	30.1704	29.6001	29.2308

Date.	FEBRUARY, 1872.										
Time.	19	20	21	22	23	24	25	26	27	28	29
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	29.556	29.611	29.838	30.150	30.218	30.195	29.739	29.472	30.32	30.505	30.302
1	29.565	29.585	29.865	30.148	30.255	30.178	29.691	29.504	30.327	30.517	30.280
2	29.601	29.609	29.859	30.158	30.249	30.170	29.676	29.554	30.307	30.551	30.281
3	29.630	29.582	29.897	30.155	30.243	30.156	29.628	29.623	30.320	30.530	30.301
4	29.661	29.531	29.903	30.157	30.245	30.140	29.571	29.656	30.334	30.521	30.251
5	29.694	29.546	29.897	30.144	30.247	30.122	29.539	29.700	30.316	30.505	30.239
6	29.716	29.535	29.929	30.117	30.243	30.108	29.497	29.739	30.312	30.494	30.210
7	29.752	29.508	29.936	30.115	30.230	30.093	29.438	29.810	30.306	30.476	30.194
8	29.775	29.496	29.956	30.130	30.114	30.084	29.378	29.828	30.302	30.482	30.201
9	29.804	29.497	29.972	30.158	30.213	30.060	29.356	29.865	30.298	30.489	30.189
10	29.822	29.489	29.990	30.150	30.208	30.033	29.298	29.899	30.314	30.496	30.187
11	29.827	29.514	30.003	30.138	30.182	30.015	29.298	29.941	30.306	30.494	30.178
Noon.	29.833	29.532	30.020	30.121	30.162	29.984	29.263	29.990	30.310	30.480	30.170
1^h	29.845	29.533	30.033	30.116	30.146	29.944	29.245	30.035	30.295	30.458	30.167
2	29.839	29.543	30.037	30.115	30.124	29.929	29.247	30.082	30.300	30.444	30.164
3	29.825	29.591	30.055	30.102	30.125	29.904	29.254	30.124	30.321	30.434	30.167
4	29.801	29.610	30.072	30.099	30.107	29.877	29.243	30.160	30.329	30.442	30.189
5	29.764	29.630	30.091	30.107	30.111	29.850	29.258	30.200	30.351	30.439	30.156
6	29.751	29.663	30.102	30.129	30.136	29.851	29.290	30.210	30.390	30.406	30.149
7	29.734	29.710	30.112	30.163	30.165	29.847	29.334	30.256	30.423	30.380	30.157
8	29.685	29.732	30.123	30.173	30.163	29.817	29.380	30.269	30.442	30.378	30.158
9	29.667	29.776	30.135	30.194	30.180	29.817	29.399	30.277	30.478	30.347	30.184
10	29.628	29.801	30.122	30.214	30.197	29.822	29.421	30.296	30.491	30.332	30.233
11	29.629	29.824	30.142	30.217	30.189	29.813	29.445	30.326	30.503	30.326	30.139
Means..	29.7252	29.6020	30.0037	30.1446	30.1955	29.9879	29.4120	29.9507	30.3500	30.4553	30.2019

Date.	MARCH, 1872.											
Time.	1	2	3	4	5	6	7	8	9	10	11	12
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	30.251	30.206	29.924	29.660	29.719	29.902	30.170	30.298	30.384	29.969	29.898	29.723
1	30.234	30.210	29.927	29.670	29.721	29.890	30.172	30.298	30.361	29.952	29.883	29.674
2	30.251	30.197	29.943	29.668	29.724	29.896	30.198	30.328	30.358	29.942	29.913	29.652
3	30.290	30.172	29.933	29.664	29.741	29.896	30.116	30.332	30.344	29.951	29.974	29.642
4	30.256	30.172	29.925	29.662	29.742	29.886	30.110	30.327	30.350	29.931	30.017	29.645
5	30.279	30.171	29.896	29.636	29.776	29.884	30.130	30.341	30.338	29.917	30.016	29.618
6	30.299	30.155	29.887	29.630	29.785	29.900	30.155	30.358	30.333	29.909	30.042	29.627
7	30.281	30.136	29.875	29.622	29.795	29.905	30.124	30.356	30.317	29.806	30.033	29.576
8	30.294	30.105	29.867	29.616	29.805	29.917	30.122	30.382	30.296	29.892	30.041	29.591
9	30.282	30.088	29.874	29.618	29.814	29.927	30.151	30.387	30.291	29.886	30.036	29.544
10	30.292	30.070	29.858	29.613	29.803	29.939	30.165	30.401	30.284	29.883	30.015	29.574
11	30.271	30.024	29.835	29.611	29.806	29.930	30.138	30.384	30.239	29.851	30.013	29.551
Noon.	30.271	30.016	29.804	29.618	29.820	29.946	30.144	30.396	30.200	29.823	30.097	29.489
1^h	30.252	29.963	29.800	29.613	29.813	29.964	30.151	30.404	30.178	29.819	30.013	29.483
2	30.258	29.960	29.777	29.623	29.826	29.986	30.149	30.396	30.156	29.805	29.973	29.485
3	30.238	29.931	29.782	29.630	29.842	30.007	30.150	30.407	30.142	29.815	29.949	29.594
4	30.244	29.913	29.768	29.631	29.842	30.040	30.144	30.407	30.126	29.819	29.922	29.527
5	30.252	29.936	29.750	29.642	29.848	30.075	30.159	30.406	30.106	29.831	29.902	29.536
6	30.241	29.922	29.750	29.658	29.858	30.090	30.153	30.403	30.091	29.831	29.877	29.665
7	30.244	29.918	29.751	29.669	29.876	30.114	30.180	30.412	30.094	29.841	29.881	29.625
8	30.227	29.901	29.727	29.674	29.873	30.127	30.185	30.417	30.070	29.856	29.848	29.682
9	30.234	29.896	29.717	29.698	29.876	30.140	30.181	30.419	30.046	29.868	29.820	29.682
10	30.228	29.910	29.705	29.698	29.888	30.143	30.193	30.404	30.022	29.878	29.790	29.706
11	30.207	29.921	29.694	29.612	29.888	30.150	30.187	30.389	29.995	29.890	29.753	29.709
Means..	30.2578	30.0376	29.8237	29.6432	29.8118	29.9856	30.1553	30.3772	30.2134	29.8735	29.9044	29.6083

Date.	MARCH, 1872.											
Time.	13	14	15	16	17	18	19	20	21	22	23	24
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	29.705	30.046	29.990	30.036	29.948	30.368	30.215	29.962	30.178	30.409	30.668	30.672
1	29.701	30.061	29.995	30.017	29.951	30.376	30.198	29.912	30.200	30.428	30.671	30.679
2	29.726	30.072	29.997	29.986	29.952	30.384	30.175	29.847	30.235	30.434	30.674	30.686
3	29.767	30.109	29.997	30.021	29.967	30.391	30.156	29.841	30.262	30.437	30.677	30.695
4	29.779	30.102	30.008	30.005	29.965	30.397	30.149	29.834	30.295	30.466	30.680	30.702
5	29.777	30.104	30.036	29.961	29.997	30.414	30.156	29.838	30.364	30.534	30.684	30.682
6	29.816	30.109	30.039	29.980	30.016	30.416	30.151	29.876	30.358	30.536	30.687	30.667
7	29.819	30.113	30.024	29.963	30.048	30.401	30.152	29.916	30.371	30.559	30.690	30.671
8	29.836	30.108	30.039	29.986	30.075	30.387	30.183	29.979	30.368	30.584	30.685	30.678
9	29.844	30.114	30.037	29.972	30.107	30.392	30.137	29.983	30.372	30.582	30.680	30.680
10	29.837	30.116	30.059	29.964	30.137	30.396	30.165	30.007	30.389	30.571	30.675	30.666
11	29.854	30.117	30.041	29.950	30.168	30.391	30.112	29.994	30.351	30.536	30.670	30.617
Noon.	29.870	30.113	30.060	29.966	30.193	30.377	30.088	29.999	30.343	30.543	30.665	30.622
1^h	29.873	30.070	30.044	29.973	30.205	30.352	30.087	29.980	30.339	30.563	30.660	30.609
2	29.887	30.080	30.066	29.953	30.218	30.348	30.087	29.960	30.353	30.567	30.656	30.618
3	29.910	30.078	30.058	29.946	30.247	30.361	30.112	29.968	30.329	30.571	30.659	30.624
4	29.934	30.072	30.070	29.941	30.277	30.349	30.108	29.979	30.323	30.589	30.662	30.634
5	29.965	30.063	30.089	29.925	30.293	30.326	30.125	29.988	30.299	30.592	30.665	30.655
6	29.968	30.060	30.093	29.916	30.319	30.327	30.016	30.011	30.328	30.600	30.668	30.686
7	29.996	30.077	30.107	29.929	30.327	30.218	30.012	30.050	30.393	30.638	30.671	30.754
8	29.998	30.053	30.078	29.924	30.335	30.299	30.083	30.080	30.391	30.645	30.674	30.740
9	30.012	30.024	30.070	29.929	30.343	30.278	30.046	30.107	30.408	30.652	30.678	30.742
10	30.029	30.016	30.075	29.936	30.351	30.258	30.015	30.125	30.303	30.659	30.676	30.775
11	30.037	29.993	30.055	29.941	30.359	30.235	29.995	30.149	30.399	30.665	30.674	30.780
Means..	29.8600	30.0779	30.0469	29.9633	30.1583	30.3100	30.1135	29.9744	30.3313	30.5567	30.6562	30.6806

Date.	MARCH, 1872.							APRIL, 1872.				
Time.	25	26	27	28	29	30	31	1	2	3	4	5
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
0h	30.791	30.525	30.473	30.461	30.407	30.409	30.408	30.313	30.457	30.248	30.028	29.970
1	30.794	30.526	30.481	30.427	30.401	30.411	30.413	30.316	30.459	30.237	30.019	29.973
2	30.798	30.488	30.474	30.437	30.415	30.412	30.412	30.323	30.461	30.227	30.013	29.974
3	30.804	30.476	30.486	30.433	30.432	30.408	30.410	30.330	30.463	30.216	30.018	29.978
4	30.802	30.459	30.503	30.450	30.431	30.406	30.415	30.353	30.461	30.198	30.016	29.980
5	30.798	30.439	30.520	30.450	30.421	30.412	30.406	30.360	30.447	30.213	30.025	29.981
6	30.788	30.445	30.507	30.438	30.428	30.395	30.406	30.361	30.450	30.199	30.027	29.987
7	30.770	30.627	30.513	30.420	30.437	30.404	30.396	30.379	30.447	30.188	30.022	29.988
8	30.776	30.411	30.519	30.415	30.417	30.391	30.391	30.395	30.438	30.184	30.024	29.985
9	30.786	30.417	30.513	30.415	30.406	30.398	30.381	30.403	30.481	30.171	30.020	29.991
10	30.774	30.410	30.511	30.412	30.413	30.400	30.369	30.415	30.425	30.151	30.005	29.983
11	30.721	30.373	30.511	30.406	30.411	30.390	30.362	30.418	30.409	30.145	29.994	29.981
Noon.	30.705	30.370	30.505	30.408	30.410	30.389	30.350	30.426	30.397	30.128	30.000	29.970
1h	30.719	30.369	30.489	30.401	30.400	30.382	30.342	30.427	30.375	30.102	29.979	29.954
2	30.738	30.378	30.498	30.397	30.398	30.387	30.335	30.433	30.361	30.097	29.977	29.950
3	30.687	30.391	30.502	30.409	30.394	30.383	30.328	30.438	30.350	30.090	29.971	29.953
4	30.680	30.401	30.502	30.409	30.399	30.381	30.323	30.448	30.338	30.071	29.982	29.953
5	30.672	30.404	30.489	30.395	30.409	30.387	30.326	30.451	30.336	30.064	29.983	29.945
6	30.668	30.422	30.489	30.395	30.405	30.386	30.329	30.454	30.316	30.056	29.972	29.955
7	30.670	30.416	30.475	30.407	30.405	30.392	30.323	30.454	30.303	30.053	29.974	29.952
8	30.636	30.456	30.482	30.406	30.409	30.401	30.308	30.454	30.298	30.041	29.984	29.939
9	30.600	30.460	30.473	30.417	30.404	30.397	30.302	30.463	30.289	30.046	29.975	29.952
10	30.578	30.463	30.467	30.403	30.408	30.400	30.308	30.466	30.285	30.039	29.974	29.948
11	30.553	30.467	30.461	30.398	30.409	30.401	30.308	30.456	30.265	30.035	29.973	29.942
Means..	30.7212	30.4343	30.4935	30.4170	30.4116	30.3958	30.3605	30.4057	30.3879	30.1333	29.9982	29.9664

Date.	APRIL, 1872.											
Time.	6	7	8	9	10	11	12	13	14	15	16	17
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
0h	29.937	29.916	30.172	30.172	30.020	30.061	30.051	29.929	29.879	30.132	30.419	30.350
1	29.932	29.910	30.182	30.161	30.024	30.058	30.052	29.922	29.888	30.145	30.433	30.357
2	29.924	29.907	30.191	30.150	30.027	30.061	30.048	29.916	29.895	30.158	30.420	30.340
3	29.919	29.923	30.198	30.139	30.032	30.063	30.042	29.909	29.905	30.169	30.426	30.318
4	29.920	29.949	30.210	30.134	30.044	30.067	30.040	29.908	29.896	30.181	30.441	30.302
5	29.925	29.962	30.221	30.138	30.049	30.068	30.041	29.907	29.889	30.190	30.441	30.302
6	29.933	29.961	30.227	30.124	30.068	30.066	30.042	29.909	29.895	30.209	30.448	30.296
7	29.922	29.964	30.222	30.116	30.060	30.065	30.030	29.902	29.913	30.224	30.449	30.293
8	29.939	29.979	30.232	30.114	30.075	30.059	30.025	29.901	29.927	30.244	30.456	30.291
9	29.934	29.972	30.233	30.109	30.071	30.049	30.017	29.886	29.945	30.243	30.451	30.288
10	29.927	29.984	30.238	30.097	30.073	30.041	30.013	29.886	29.957	30.256	30.450	30.276
11	29.928	30.001	30.237	30.083	30.071	30.055	30.004	29.876	29.977	30.268	30.443	30.266
Noon.	29.925	30.009	30.222	30.078	30.075	30.041	29.988	29.876	29.986	30.259	30.430	30.269
1h	29.912	30.002	30.210	30.052	30.059	30.020	29.970	29.859	29.980	30.265	30.413	30.272
2	29.913	30.014	30.204	30.041	30.067	30.019	29.951	29.857	30.000	30.283	30.405	30.264
3	29.911	30.036	30.205	30.035	30.065	30.023	29.950	29.854	30.020	30.300	30.405	30.268
4	29.912	30.054	30.201	30.027	30.066	30.020	29.949	29.851	30.025	30.319	30.391	30.271
5	29.920	30.070	30.207	30.022	30.071	30.022	29.933	29.845	30.031	30.317	30.376	30.277
6	29.923	30.086	30.208	30.022	30.068	30.025	29.935	29.845	30.061	30.327	30.372	30.275
7	29.925	30.114	30.197	30.018	30.055	30.022	29.928	29.842	30.068	30.346	30.366	30.268
8	29.928	30.115	30.188	30.005	30.053	30.021	29.922	29.842	30.070	30.350	30.357	30.276
9	29.925	30.131	30.187	30.015	30.070	30.043	29.950	29.854	30.098	30.376	30.376	30.276
10	29.922	30.156	30.185	30.014	30.072	30.046	29.942	29.862	30.109	30.388	30.353	30.267
11	29.919	30.163	30.182	30.014	30.071	30.050	29.935	29.870	30.120	30.403	30.360	30.252
Means..	29.9239	30.0158	30.2066	30.0783	30.0586	30.0441	29.9859	29.8795	29.9806	30.2651	30.4117	30.2881

Date.	APRIL, 1872.												
Time.	18	19	20	21	22	23	24	25	26	27	28	29	30
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	30.237	30.653	30.735	30.267	30.148	29.540	30.291	30.194	30.364	30.535	30.389	30.355	30.317
1	30.227	30.673	30.724	30.259	30.148	29.676	30.293	30.199	30.369	30.538	30.394	30.353	30.316
2	30.226	30.695	30.716	30.247	30.124	29.746	30.294	30.185	30.377	30.543	30.393	30.348	30.309
3	30.226	30.700	30.703	30.237	30.101	29.811	30.297	30.226	30.403	30.549	30.399	30.340	30.342
4	30.220	30.707	30.687	30.224	30.075	29.861	30.298	30.243	30.403	30.547	30.411	30.323	30.329
5	30.225	30.717	30.772	30.240	30.051	29.923	30.303	30.230	30.407	30.543	30.419	30.332	30.332
6	30.213	30.732	30.753	30.211	30.029	29.980	30.307	30.240	30.410	30.545	30.428	30.320	30.327
7	30.229	30.734	30.737	30.185	29.999	30.029	30.296	30.257	30.419	30.533	30.425	30.310	30.320
8	30.270	30.746	30.589	30.146	29.962	30.071	30.280	30.235	30.426	30.528	30.436	30.315	30.316
9	30.254	30.747	30.577	30.128	29.926	30.102	30.265	30.246	30.441	30.520	30.426	30.300	30.298
10	30.273	30.756	30.556	30.108	29.884	30.130	30.257	30.255	30.451	30.524	30.431	30.303	30.308
11	30.287	30.751	30.517	30.096	29.836	30.156	30.240	30.248	30.440	30.490	30.422	30.283	30.282
Noon.	30.297	30.753	30.479	30.073	29.813	30.189	30.231	30.268	30.439	30.476	30.411	30.281	30.269
1^h	30.305	30.756	30.436	30.051	29.762	30.184	30.218	30.265	30.456	30.455	30.413	30.294	30.238
2	30.333	30.751	30.405	30.045	29.790	30.200	30.210	30.280	30.471	30.436	30.411	30.300	30.228
3	30.361	30.762	30.384	30.076	29.731	30.213	30.203	30.263	30.479	30.419	30.399	30.294	30.222
4	30.386	30.777	30.355	30.092	29.696	30.220	30.201	30.279	30.480	30.416	30.390	30.288	30.201
5	30.419	30.766	30.328	30.101	29.658	30.223	30.193	30.285	30.491	30.403	30.390	30.290	30.198
6	30.451	30.757	30.318	30.133	29.625	30.233	30.197	30.303	30.506	30.408	30.384	30.295	30.188
7	30.499	30.753	30.291	30.139	29.614	30.241	30.188	30.338	30.526	30.412	30.312	30.309	30.179
8	30.540	30.744	30.276	30.147	29.563	30.250	30.191	30.336	30.526	30.402	30.372	30.307	30.183
9	30.571	30.761	30.266	30.145	29.539	30.261	30.191	30.342	30.528	30.396	30.313	30.313	30.184
10	30.597	30.746	30.286	30.145	29.514	30.273	30.191	30.348	30.530	30.395	30.309	30.303	30.189
11	30.623	30.728	30.278	30.144	29.528	30.282	30.192	30.354	30.539	30.387	30.339	30.306	30.188
Means..	30.3466	30.7360	30.5070	30.1516	29.8798	30.0748	30.2428	30.2675	30.4534	30.4754	30.3923	30.3109	30.2609

Date.	MAY, 1872.												
Time.	1	2	3	4	5	6	7	8	9	10	11	12	13
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	30.190	30.089	29.947	29.736	29.893	30.064	30.139	30.083	29.989	29.711	29.619	29.785	30.194
1	30.188	30.085	29.948	29.717	29.898	30.064	30.137	30.083	29.982	29.712	29.621	29.778	30.184
2	30.185	30.071	29.946	29.712	29.918	30.065	30.134	30.079	29.973	29.699	29.617	29.814	30.173
3	30.208	30.073	29.946	29.710	29.940	30.961	30.142	30.076	29.970	29.702	29.630	29.854	30.185
4	30.189	30.065	29.941	29.703	29.931	30.058	30.141	30.058	29.962	29.689	29.647	29.909	30.179
5	30.189	30.060	29.942	29.695	29.924	30.041	30.139	30.099	29.940	29.695	29.642	29.931	30.180
6	30.199	30.034	29.937	29.686	29.915	30.055	30.144	30.072	29.943	29.681	29.663	29.949	30.170
7	30.187	30.051	29.935	29.676	29.916	30.063	30.143	30.060	29.937	29.678	29.671	29.989	30.174
8	30.188	30.028	29.926	29.703	29.901	30.081	30.130	30.054	29.911	29.677	29.663	30.024	30.176
9	30.181	30.021	29.928	29.708	29.916	30.079	30.139	30.045	29.896	29.662	29.686	30.038	30.169
10	30.187	30.014	29.906	29.717	29.904	30.080	30.140	30.028	29.893	29.647	29.698	30.085	30.188
11	30.153	29.979	29.890	29.737	29.909	30.075	30.129	30.014	29.851	29.610	29.686	30.080	30.158
Noon.	30.158	29.984	29.876	29.761	29.916	30.072	30.113	29.996	29.828	29.593	29.696	30.093	30.166
1^h	30.151	29.969	29.863	29.780	29.914	30.091	30.113	30.000	29.820	29.583	29.696	30.109	30.177
2	30.130	29.970	29.846	29.783	29.931	30.095	30.109	30.002	29.812	29.593	29.713	30.117	30.193
3	30.127	29.967	29.839	29.790	29.945	30.092	30.113	30.003	29.784	29.596	29.710	30.128	30.201
4	30.126	29.953	29.826	29.798	29.960	30.095	30.118	30.005	29.774	29.580	29.699	30.141	30.229
5	30.126	29.943	29.808	29.813	29.968	30.092	30.124	30.014	29.768	29.584	29.692	30.146	30.253
6	30.117	29.948	29.812	29.829	29.999	30.088	30.125	30.004	29.758	29.564	29.691	30.158	30.269
7	30.102	29.941	29.799	29.853	30.040	30.122	30.136	30.027	29.761	29.582	29.724	30.176	30.307
8	30.119	29.947	29.804	29.878	30.049	30.117	30.117	29.996	29.755	29.592	29.724	30.177	30.302
9	30.105	29.948	29.786	29.899	30.055	30.139	30.109	29.994	29.743	29.592	29.736	30.181	30.315
10	30.106	29.951	29.762	29.895	30.053	30.140	30.109	30.004	29.717	29.599	29.750	30.177	30.336
11	30.090	29.948	29.749	29.878	30.053	30.141	30.099	29.988	29.723	29.615	29.761	30.177	30.350
Means..	30.1542	30.0016	29.8734	29.7690	29.9520	30.0863	30.1258	30.0327	29.8538	29.5932	29.6848	30.0423	30.2178

Date.	MAY, 1872.											
Time.	14	15	16	17	18	19	20	21	22	23	24	25
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0h	30.364	30.369	30.559	30.592	30.485	30.490	30.556	30.287	29.717	29.610	29.430	29.416
1	30.378	30.395	30.553	30.581	30.482	30.499	30.547	30.271	29.711	29.586	29.427	29.433
2	30.379	30.428	30.549	30.622	30.479	30.501	30.542	30.243	29.715	29.573	29.424	29.450
3	30.382	30.438	30.565	30.606	30.481	30.524	30.544	30.232	29.730	29.571	29.425	29.447
4	30.387	30.458	30.569	30.592	30.485	30.529	30.554	30.205	29.763	29.531	29.444	29.447
5	30.386	30.471	30.571	30.569	30.471	30.549	30.550	30.173	29.758	29.526	29.439	29.460
6	30.398	30.487	30.571	30.527	30.466	30.555	30.540	30.162	29.766	29.522	29.442	29.481
7	30.405	30.505	30.566	30.513	30.455	30.566	30.543	30.150	29.789	29.514	29.456	29.490
8	30.373	30.520	30.569	30.496	30.461	30.575	30.527	30.132	29.802	29.508	29.449	29.501
9	30.359	30.566	30.585	30.486	30.455	30.585	30.520	30.099	29.810	29.485	29.445	29.514
10	30.354	30.581	30.585	30.481	30.447	30.540	30.520	30.076	29.827	29.462	29.446	29.532
11	30.330	30.562	30.601	30.446	30.431	30.579	30.496	29.021	29.793	29.425	29.431	29.525
Noon.	30.328	30.558	30.582	30.439	30.422	30.576	30.476	29.993	29.7[illegible]6	29.409	29.425	29.536
1h	30.314	30.563	30.581	30.434	30.420	30.574	30.464	29.964	29.779	29.391	29.420	29.558
2	30.294	30.579	30.596	30.435	30.409	30.574	30.448	29.930	29.766	29.389	29.416	29.554
3	30.279	30.573	30.601	30.438	30.409	30.575	30.432	29.892	29.753	29.390	29.410	29.557
4	30.278	30.568	30.598	30.450	30.411	30.568	30.420	29.860	29.732	29.394	29.404	29.567
5	30.287	30.568	30.602	30.473	30.411	30.563	30.414	29.843	29.715	29.414	29.402	29.570
6	30.293	30.569	30.597	30.470	30.422	30.569	30.393	29.815	29.701	29.425	29.401	29.592
7	30.306	30.579	30.610	30.464	30.447	30.583	30.389	29.800	29.697	29.432	29.417	29.629
8	30.308	30.583	30.604	30.484	30.458	30.589	30.376	29.775	29.680	29.415	29.419	29.631
9	30.333	30.576	30.610	30.487	30.465	30.576	30.354	29.724	29.660	29.420	29.412	29.634
10	30.332	30.571	30.622	30.490	30.473	30.573	30.323	29.737	29.646	29.434	29.400	29.639
11	30.340	30.565	30.631	30.484	30.478	30.562	30.321	29.722	29.634	29.429	29.411	29.644
Means..	30.3411	30.5263	30.5865	30.5358	30.4509	30.5573	30.4191	30.0044	29.7388	29.4689	29.4248	29.5336

Date.	MAY, 1872.						JUNE, 1872.					
Time.	26	27	28	29	30	31	1	2	3	4	5	6
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0h	29.654	29.761	29.996	30.211	30.190	29.958	29.852	29.875	29.912	30.019	30.026	29.989
1	29.658	29.786	30.005	30.222	30.189	29.954	29.859	29.883	29.908	30.020	30.023	29.986
2	29.659	29.804	30.016	30.229	30.153	29.953	29.865	29.891	29.917	30.025	30.0[illegible]1	29.980
3	29.659	29.823	30.037	30.229	30.160	29.956	29.861	29.897	29.919	30.033	30.008	29.963
4	29.664	29.832	30.048	30.233	30.180	29.943	29.857	29.886	29.917	30.040	30.008	29.947
5	29.665	29.850	30.056	30.255	30.180	29.953	29.856	29.884	29.917	30.051	30.010	29.936
6	29.664	29.873	30.094	30.250	30.180	29.934	29.858	29.902	29.923	30.056	30.006	29.931
7	29.669	29.8[illegible]0	30.089	30.252	30.162	29.943	29.863	29.917	29.941	30.059	29.985	29.887
8	29.681	29.893	30.095	30.251	30.161	29.930	29.882	29.905	29.950	30.042	29.979	29.876
9	29.682	29.920	30.116	30.259	30.146	29.922	29.881	29.905	29.959	30.047	29.981	29.868
10	29.677	29.924	30.110	30.253	30.125	29.890	29.881	29.920	29.953	30.051	29.967	29.864
11	29.664	29.904	30.097	30.227	30.099	29.877	29.864	29.905	29.961	30.049	29.940	29.848
Noon.	29.672	29.910	30.092	30.202	30.070	29.867	29.862	29.895	29.98[illegible]	30.048	29.929	29.825
1h	29.674	29.919	30.101	30.204	30.058	29.862	29.863	29.898	29.984	30 059	29.912	29.821
2	29.671	29.916	30.116	30.192	30.034	29.872	29.851	29.904	29.992	30.038	29.915	29.815
3	29.673	29.911	30.122	30.197	30.031	29.872	29.845	29.913	29.995	30.036	29.902	29.823
4	29.672	29.908	30.138	30.190	30.026	29.862	29.859	29.931	29.995	30.022	29.914	29.827
5	29.690	29.915	30.142	30.190	30.012	29.869	29.842	29.929	30.012	30.023	29.924	29.842
6	29.699	29.925	30.146	30.180	30.000	29.866	29.858	29.929	30.008	30.027	29.946	29.848
7	29.704	29.968	30.164	30.195	30.010	29.865	29.870	29.936	30.011	30.023	29.961	29.855
8	29.724	29.966	30.188	30.195	30.003	29.865	29.879	29.930	30.007	30.038	29.966	29.867
9	29.729	29.969	30.182	30.192	29.978	29.851	29.878	29.928	30.007	30.034	29.974	29.848
10	29.742	29.976	30.188	30.188	29.978	29.845	29.858	29.924	30.007	30.031	29.987	29.864
11	29.756	29.985	30.201	30.191	29.966	29.849	29.874	29.933	30.016	30.026	29.985	29.864
Means..	29.6834	29.8966	30.1058	30.2161	30.0873	29.8983	29.8631	29.9092	29.9640	30.0372	29.9670	29.8820

Date.	JUNE, 1872.											
Time.	7	8	9	10	11	12	13	14	15	16	17	18
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	29.860	29.854	29.861	29.897	30.121	30.173	30.068	29.993	30.020	30.002	29.950	29.984
1	29.861	29.862	29.874	29.894	30.140	30.162	30.056	30.018	30.042	29.992	29.949	30.009
2	29.865	29.862	29.883	29.907	30.156	30.151	30.050	30.030	30.035	29.983	29.950	30.009
3	29.868	29.877	29.901	29.897	30.139	30.144	30.071	30.029	30.032	29.980	29.960	30.012
4	29.866	29.898	29.904	29.898	30.152	30.159	30.051	30.038	30.041	29.965	29.965	30.012
5	29.861	29.895	29.909	29.907	30.152	30.164	30.066	30.044	30.052	29.941	29.952	30.034
6	29.867	29.877	29.906	29.906	30.165	30.160	30.050	30.040	30.067	29.950	29.953	30.042
7	29.852	29.878	29.911	29.901	30.151	30.171	30.057	30.035	30.058	29.968	29.973	30.063
8	29.850	29.865	29.921	29.897	30.173	30.173	30.064	30.041	30.044	29.944	29.960	30.059
9	29.836	29.853	29.929	29.899	30.185	30.158	30.060	30.031	30.055	29.941	29.955	30.067
10	29.821	29.814	29.916	29.901	30.187	30.154	30.041	30.036	30.052	29.925	29.950	30.064
11	29.803	29.810	29.918	29.912	30.186	30.142	30.037	30.038	30.057	29.917	29.943	30.067
Noon.	29.776	29.805	29.904	29.917	30.166	30.108	30.019	30.011	30.036	29.890	29.930	30.048
1^h	29.755	29.796	29.900	29.925	30.156	30.091	29.988	29.991	30.026	29.888	29.933	30.043
2	29.742	29.775	29.889	29.948	30.156	30.090	29.989	29.990	30.024	29.891	29.939	30.049
3	29.730	29.770	29.881	29.967	30.164	30.083	29.996	29.995	30.027	29.892	29.947	30.048
4	29.734	29.781	29.871	29.978	30.163	30.074	29.998	30.009	30.017	29.886	29.948	30.041
5	29.752	29.759	29.854	30.007	30.147	30.070	30.004	30.005	30.018	29.888	29.954	30.033
6	29.759	29.790	29.851	30.035	30.146	30.064	30.008	30.002	30.024	29.885	29.960	30.041
7	29.786	29.805	29.852	30.048	30.144	30.057	30.008	30.007	30.008	29.891	29.972	30.043
8	29.792	29.807	29.861	30.061	30.148	30.060	30.004	30.006	30.009	29.901	29.956	30.023
9	29.810	29.817	29.865	30.072	30.139	30.057	30.001	30.002	30.004	29.913	29.965	30.011
10	29.826	29.844	29.873	30.062	30.147	30.043	30.002	29.999	29.996	29.923	29.966	30.001
11	29.852	29.855	29.889	30.085	30.161	30.034	29.998	29.991	29.982	29.926	29.982	29.992
Means..	29.8143	29.8312	29.8830	29.9551	30.1550	30.1140	30.0290	30.0159	30.0510	29.9279	29.9538	30.0331

Date.	JUNE, 1872.											
Time.	19	20	21	22	23	24	25	26	27	28	29	30
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	30.021	29.788	29.745	29.537	29.568	29.550	29.632	29.776	29.828	29.568	29.778	29.752
1	30.009	29.765	29.738	29.531	29.563	29.558	29.630	29.788	29.806	29.554	29.784	29.752
2	30.002	29.760	29.735	29.547	29.570	29.560	29.636	29.804	29.788	29.586	29.778	29.756
3	29.987	29.753	29.729	29.541	29.570	29.568	29.642	29.810	29.780	29.604	29.774	29.764
4	29.971	29.742	29.715	29.554	29.580	29.572	29.648	29.824	29.774	29.612	29.768	29.772
5	29.983	29.749	29.706	29.553	29.580	29.575	29.656	29.826	29.765	29.639	29.766	29.780
6	29.980	29.744	29.698	29.515	29.588	29.585	29.660	29.832	29.751	29.659	29.764	29.788
7	29.965	29.749	29.687	29.520	29.575	29.587	29.666	29.828	29.732	29.676	29.756	29.790
8	29.968	29.746	29.643	29.535	29.565	29.590	29.670	29.828	29.714	29.686	29.745	29.788
9	29.963	29.742	29.621	29.555	29.568	29.592	29.672	29.826	29.656	29.692	29.740	29.786
10	29.944	29.742	29.588	29.570	29.562	29.592	29.668	29.826	29.624	29.698	29.738	29.798
11	29.934	29.733	29.590	29.579	29.558	29.590	29.670	29.824	29.644	29.698	29.722	29.790
Noon.	29.916	29.723	29.578	29.580	29.550	29.594	29.670	29.828	29.630	29.698	29.722	29.800
1^h	29.909	29.730	29.554	29.575	29.522	29.595	29.665	29.831	29.604	29.708	29.724	29.806
2	29.879	29.718	29.528	29.582	29.517	29.598	29.665	29.831	29.602	29.715	29.724	29.810
3	29.867	29.698	29.515	29.578	29.508	29.600	29.668	29.831	29.588	29.738	29.724	29.805
4	29.859	29.706	29.505	29.592	29.512	29.615	29.675	29.832	29.578	29.725	29.722	29.812
5	29.856	29.699	29.486	29.585	29.525	29.620	29.685	29.833	29.566	29.735	29.719	29.815
6	29.853	29.704	29.500	29.578	29.525	29.618	29.696	29.846	29.546	29.746	29.718	29.818
7	29.849	29.714	29.525	29.575	29.528	29.620	29.708	29.833	29.545	29.758	29.725	29.824
8	29.836	29.713	29.520	29.565	29.530	29.622	29.718	29.832	29.536	29.760	29.732	29.825
9	29.812	29.717	29.530	29.563	29.534	29.628	29.730	29.831	29.536	29.768	29.745	29.826
10	29.792	29.715	29.520	29.563	29.542	29.630	29.744	29.831	29.568	29.776	29.748	29.828
11	29.780	29.717	29.511	29.561	29.555	29.635	29.765	29.831	29.554	29.776	29.756	29.830
Means..	29.9151	29.7320	29.6031	29.5590	29.5490	29.5950	29.7589	29.8241	29.6550	29.6910	29.7450	29.7960

Time.	JULY, 1872.											
Date.	1	2	3	4	5	6	7	8	9	10	11	12
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	29.832	29.730	29.577	29.581	29.585	29.589	29.593	29.597	29.601	29.605	29.605	29.615
1	29.828	29.723	29.582	29.586	29.590	29.594	29.598	29.602	29.606	29.610	29.614	29.615
2	29.824	29.700	29.582	29.586	29.589	29.593	29.597	29.600	29.604	29.607	29.610	29.613
3	29.824	29.688	29.577	29.581	29.585	29.588	29.592	29.595	29.599	29.603	29.607	29.612
4	29.826	29.686	29.570	29.574	29.577	29.581	29.584	29.588	29.591	29.595	29.599	29.605
5	29.826	29.690	29.568	29.571	29.575	29.578	29.581	29.584	29.587	29.591	29.595	29.600
6	29 822	29.684	29.566	29.569	29.572	29.575	29.578	29.581	29.585	29.588	29.591	29.594
7	29.820	29.680	29.568	29.570	29.573	29.576	29.578	29.580	29.583	29.586	29.588	29.590
8	29.818	29.666	29.566	29.568	29.571	29.574	29.576	29.578	29.581	29.584	29.586	29.588
9	29.815	29.656	29.556	29.559	29.562	29.565	29.569	29.572	29.575	29.578	29.581	29.584
10	29.814	29.628	29.550	29.554	29.558	29.562	29.566	29.570	29.574	29.578	29.582	29.586
11	29.804	29.624	29.540	29.545	29.551	29.556	29.562	29.567	29.573	29.578	29.583	29.588
Noon.	29.800	29.618	29.532	29.538	29.545	29.551	29.558	29.564	29.571	29.577	29.584	29.590
1^h	29.798	29.616	29.535	29.540	29.546	29.551	29.557	29.562	29.567	29.572	29.577	29.582
2	29.795	29.610	29.535	29.540	29.546	29.551	29.557	29.562	29.567	29.572	29.577	29.582
3	29.783	29.606	29.534	29.540	29.546	29.552	29.558	29.564	29.570	29.576	29.582	29.588
4	29.774	29.598	29.536	29.543	29.549	29.556	29.562	29.569	29.576	29.583	29.589	29.596
5	29.768	29.595	29.536	29.544	29.553	29.561	29.570	29.578	29.587	29.595	29.604	29.612
6	29.758	29.595	29.535	29.545	29.554	29.564	29.573	29.583	29.592	29.602	29.612	29.622
7	29.752	29.590	29.522	29.535	29.547	29.560	29.573	29.586	29.599	29.612	29.625	29.638
8	29.746	29.584	29.530	29.544	29.559	29.573	29.587	29.601	29.615	29.629	29.643	29.657
9	29.738	29.578	29.538	29.554	29.569	29.585	29.600	29.616	29.632	29.648	29.664	29.680
10	29.738	29.567	29.533	29.551	29.569	29.587	29.605	29.623	29.641	29.659	29.677	29.695
11	29.738	29.573	29.521	29.543	29.564	29.586	29.608	29.630	29.652	29.674	29.696	29.718
Means..	29.7931	29.6360	29.5489	29.5572	29.5644	29.5713	29.5780	29.5855	29.5932	29.6000	29.6071	29.6153

Date.	JULY, 1872.											
Time.	13	14	15	16	17	18	19	20	21	22	23	24
	Inches	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	29.726	29.728	29.933	30.135	29.999	29.882	29.773	29.907	29.797	29:713	29.773	30.055
1	29.738	29.715	29.933	30.153	29.978	29.871	29.795	29.885	29.785	29.708	29.784	30.053
2	29.751	29.713	29.950	30.162	29.9.6	29.845	29.809	29.890	29.772	29.710	29.809	30.052
3	29.770	29.710	29.965	30.177	29.937	29.829	29.822	29.881	29.770	29.712	29.814	30.058
4	29.788	29.714	29.986	30.187	29.932	29.823	29.837	29.895	29.769	29.712	29.834	30.058
5	29.802	29.712	29.980	30.194	29.943	29.812	29.843	29.895	29.756	29.720	29.852	30.062
6	29.818	29.722	29.982	30.210	29.952	29.795	29.852	29.883	29.751	29.718	29.870	30.062
7	29.831	29.726	29.986	30.206	29.964	29.790	29.854	29.864	29.746	29.718	29.888	30.060
8	29.836	29.762	29.992	30.214	29.978	29.784	29.862	29.850	29.742	29.719	29.906	30.052
9	29.844	29.776	30.002	30.218	29.994	29.778	29.858	29.848	29.726	29.718	29.922	30.042
10	29.842	29.812	29.990	30.228	29.996	29.758	29.864	29.838	29.706	29.712	29.938	30.036
11	29.854	29.840	30.000	30.224	29.982	29.752	29.868	29.834	29.694	29.718	29.952	30.018
Noon.	29.858	29.882	30.002	30.225	29.978	29.748	29.878	29.836	29.688	29.715	29.958	30.002
1^h	29.868	29.904	30.006	30.218	29.962	29.752	29.884	29.836	29.683	29.716	29.976	29.990
2	29.864	29.904	30.010	30.218	29.957	29.750	29.908	29.838	29.688	29.708	29.982	29.978
3	29.865	29.920	30.012	30.199	29.956	29.756	29.922	29.838	29.692	29.698	30.002	29.975
4	29.864	29.924	30.016	30.186	29.956	29.756	29.938	29.836	29.694	29.705	30.016	29.962
5	29.852	29.944	30.050	30.177	29.943	29.762	29.938	29.835	29.698	29.718	30.035	29.964
6	29.844	29.942	30.060	30.166	29.936	29.744	29.923	29.830	29.696	29.728	30.042	29.963
7	29.828	29.962	30.065	30.152	29.928	29.742	29.925	29.822	29.700	29.738	30.044	29.960
8	29.808	29.938	30.084	30.115	29.912	29.743	29.924	29.818	29.700	29.743	30.050	29.958
9	29.783	29.950	30.103	30.078	29.909	29.753	29.922	29.818	29.704	29.756	30.056	29.956
10	29.770	29.953	30.127	30.060	29.901	29.760	29.917	29.812	29.709	29.757	30.055	29.957
11	29.753	29.948	30.129	30.033	29.892	29.766	29.915	29.802	29.710	29.763	30.055	29.955
Means..	29.8151	29.8377	30.0154	30.1720	29.9521	29.7814	29.8757	29.8487	29.7241	29.7260	29.9421	30.0090

Date.	JULY, 1872.							AUGUST, 1872.					
Time.	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**1**	**2**	**3**	**4**	**5**	**6**
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	29.954	39.008	29.961	29.938	29.882	29.658	29.918	30.028	29.970	30.008	30.010	29.984	30.057
1	29.950	30.007	29.972	29.924	29.877	29.660	29.934	30.026	29.968	30.023	30.006	29.984	30.058
2	29.953	30.003	29.982	29.920	29.872	29.684	29.940	30.024	29.973	30.053	30.000	29.998	30.058
3	29.928	30.007	30.000	29.917	29.865	29.687	29.943	30.035	29.975	30.064	29.990	30.012	30.057
4	29.935	30.016	30.018	29.916	29.862	29.692	29.956	30.038	29.974	30.088	29.985	30.024	30.056
5	29.954	30.018	30.022	29.910	29.856	29.705	29.964	30.035	29.974	30.098	29.988	30.035	30.056
6	29.956	30.018	30.026	29.908	29.850	29.705	29.958	30.030	29.976	30.106	29.988	30.046	30.050
7	29.978	30.016	30.036	29.902	29.854	29.718	29.962	30.030	29.980	30.114	29.985	30.056	30.046
8	29.980	30.003	30.032	29.895	29.843	29.745	29.962	30.027	29.978	30.115	29.981	30.058	30.035
9	29.970	29.995	30.033	29.894	29.837	29.759	29.971	30.025	29.975	30.130	29.980	30.053	30.023
10	29.956	29.990	30.038	29.892	29.830	29.770	29.979	30.022	29.970	30.135	29.975	30.052	30.014
11	29.958	29.982	30.038	29.892	29.813	29.787	29.982	30.019	29.971	30.142	29.968	30.050	29.993
Noon.	29.965	29.965	30.038	29.879	29.793	29.817	29.997	30.017	29.958	30.125	29.962	30.042	29.983
1^h	29.972	29.958	30.040	29.889	29.772	29.846	29.998	30.000	29.960	30.120	29.960	30.042	29.975
2	29.976	29.953	30.040	29.886	29.756	29.863	29.999	29.993	29.948	30.120	29.958	30.047	29.959
3	29.978	29.943	30.038	29.890	29.747	29.883	30.010	29.995	29.948	30.119	29.964	30.052	29.943
4	29.982	29.945	30.036	29.893	29.746	29.890	30.018	29.990	29.950	30.116	29.975	30.056	29.938
5	29.988	29.938	30.035	29.890	29.718	29.898	30.025	29.986	29.945	30.102	29.970	30.058	29.928
6	29.990	29.936	30.022	29.882	29.698	29.908	30.030	29.982	29.950	30.096	29.968	30.058	29.918
7	30.008	29.938	30.018	29.888	29.687	29.918	30.026	29.975	29.963	30.090	29.975	30.062	29.915
8	30.008	29.934	29.992	29.893	29.682	29.915	30.031	29.977	29.969	30.081	29.973	30.068	29.912
9	30.007	29.937	29.978	29.895	29.662	29.913	30.031	29.979	29.957	30.063	29.985	30.065	29.898
10	30.005	29.938	29.965	29.895	29.641	29.920	30.033	29.971	29.983	30.037	29.987	30.062	29.897
11	30.007	29.943	29.958	29.897	29.655	29.924	30.031	29.972	29.993	30.028	29.982	30.058	29.894
Means..	29.9741	29.9746	30.0129	29.8989	29.7829	29.8031	29.9872	30.0073	29.9670	30.0905	29.9798	30.0426	29.9859

Date.	AUGUST, 1872.												
Time.	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	29.892	29.953	29.913	29.858	29.774	29.762	29.872	29.917	30.007	29.943	29.810	29.893	29.846
1	29.897	29.957	29.910	29.858	29.774	29.762	29.873	29.926	30.002	29.943	29.816	29.897	29.836
2	29.904	29.960	29.913	29.852	29.780	29.766	29.877	29.941	29.997	29.942	29.819	29.897	29.827
3	29.907	29.964	29.920	29.856	29.784	29.777	29.877	29.962	29.993	29.938	29.841	29.898	29.825
4	29.920	29.966	29.925	29.860	29.784	29.796	29.894	29.970	29.995	29.935	29.862	29.897	29.832
5	29.932	29.956	29.934	29.862	29.794	29.812	29.908	29.990	29.997	29.933	29.872	29.896	29.827
6	29.935	29.956	29.936	29.870	29.796	29.822	29.912	30.006	29.988	29.926	29.878	29.892	29.823
7	29.930	29.956	29.938	29.870	29.796	29.835	29.916	30.022	29.985	29.922	29.890	29.895	29.832
8	29.930	29.952	29.942	29.859	29.795	29.830	29.917	30.033	29.983	29.920	29.895	29.882	29.832
9	29.917	29.949	29.938	29.854	29.795	29.835	29.925	30.038	29.990	29.911	29.900	29.888	29.830
10	29.915	29.938	29.932	29.850	29.790	29.838	29.913	30.043	29.984	29.909	29.917	29.890	29.822
11	29.907	29.934	29.918	29.845	29.784	29.849	29.910	30.049	29.990	29.893	29.913	29.893	29.835
Noon.	29.912	29.926	29.914	29.832	29.775	29.843	29.902	30.046	30.008	29.885	29.915	29.898	29.837
1^h	29.918	29.917	29.906	29.822	29.765	29.843	29.898	30.054	29.982	29.881	29.923	29.900	29.840
2	29.915	29.919	29.900	29.818	29.762	29.845	29.902	30.046	29.975	29.878	29.930	29.902	29.865
3	29.918	29.922	29.896	29.816	29.757	29.847	29.904	30.042	29.977	29.865	29.935	29.902	29.882
4	29.922	29.926	29.896	29.818	29.757	29.850	29.904	30.038	29.966	29.863	29.938	29.915	29.897
5	29.928	29.925	29.896	29.814	29.755	29.857	29.898	30.038	29.958	29.850	29.936	29.910	29.922
6	29.940	29.924	29.896	29.802	29.750	29.862	29.896	30.034	29.956	29.844	29.924	29.906	29.942
7	29.946	29.930	29.895	29.798	29.748	29.860	29.896	30.028	29.957	29.838	29.918	29.900	29.958
8	29.952	29.928	29.893	29.789	29.751	29.857	29.896	30.018	29.951	29.829	29.910	29.886	29.968
9	29.955	29.921	29.886	29.789	29.759	29.862	29.904	30.016	29.950	29.820	29.908	29.873	29.973
10	29.962	29.922	29.873	29.785	29.758	29.867	29.907	30.016	29.950	29.813	29.897	29.865	29.995
11	29.957	29.918	29.858	29.775	29.754	29.870	29.913	30.013	29.948	29.810	29.892	29.853	30.005
Means..	29.9255	29.9283	29.9095	29.8313	29.7724	29.8311	29.9006	30.0111	29.9787	29.8871	29.8933	29.8928	29.8771

Date.	AUGUST, 1872.											
Time.	20	21	22	23	24	25	26	27	28	29	30	31
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	30.033	30.007	29.844	29.920	30.202	30.192	30.093	30.064	29.930	30.043	30.143	30.150
1	30.052	29.992	29.837	29.938	30.208	30.186	30.093	30.060	29.930	30.045	30.143	30.148
2	30.075	29.985	29.828	29.957	30.208	30.179	30.090	30.060	29.930	30.048	30.140	30.147
3	30.118	29.985	29.822	29.982	30.214	30.173	30.088	30.060	29.937	30.060	30.140	30.155
4	30.154	29.978	29.820	30.010	30.210	30.173	30.095	30.055	29.942	30.068	30.144	30.166
5	30.182	29.976	29.818	30.030	30.228	30.168	30.090	30.048	29.945	30.076	30.144	30.178
6	30.216	29.978	29.816	30.052	30.238	30.168	30.088	30.045	29.952	30.082	30.146	30.182
7	30.228	29.982	29.816	30.075	30.242	30.172	30.092	30.044	29.956	30.085	30.148	30.180
8	30.251	29.992	29.797	30.092	30.239	30.169	30.093	30.034	29.970	30.093	30.148	30.178
9	30.253	29.994	29.812	30.093	30.235	30.169	30.093	30.027	29.972	30.093	30.148	30.175
10	30.253	30.004	29.813	30.110	30.249	30.167	30.095	30.018	29.973	30.091	30.149	30.170
11	30.257	30.013	29.812	30.124	30.234	30.162	30.093	30.013	29.990	30.097	30.152	30.170
Noon.	30.255	30.013	29.802	30.133	30.222	30.150	30.085	30.002	30.000	30.104	30.155	30.172
1^h	30.247	30.003	29.809	30.137	30.220	30.142	30.080	29.997	30.005	30.113	30.162	30.163
2	30.240	30.000	29.821	30.140	30.220	30.142	30.080	29.986	30.015	30.120	30.165	30.163
3	30.227	29.982	29.838	30.143	30.220	30.137	30.080	29.977	30.025	30.130	30.176	30.147
4	30.218	29.978	29.855	30.155	30.222	30.130	30.078	29.972	30.035	30.136	30.175	30.146
5	30.214	29.966	29.865	30.168	30.220	30.118	30.080	29.966	30.036	30.142	30.168	30.137
6	30.182	29.954	29.878	30.184	30.218	30.116	30.082	29.962	30.038	30.154	30.164	30.122
7	30.156	29.936	29.888	30.189	30.214	30.116	30.076	29.956	30.038	30.157	30.160	30.102
8	30.132	29.913	29.893	30.189	30.213	30.115	30.073	29.943	30.042	30.152	30.155	30.090
9	30.093	29.897	29.910	30.192	30.210	30.110	30.070	29.940	30.040	30.150	30.152	30.062
10	30.070	29.873	29.910	30.195	30.198	30.098	30.070	29.933	30.037	30.147	30.149	30.058
11	30.035	29.857	29.912	30.198	30.195	30.093	30.068	29.932	30.037	30.145	30.153	30.035
Means..	30.1725	30.0524	29.8423	30.1003	30.2199	30.1477	30.0844	30.0039	29.9906	30.1055	30.1533	30.1415

The following tables contain the condensed result of the preceding record, giving the daily and hourly means of atmospheric pressure at Polaris Bay:

Daily means of atmospheric pressure at Polaris Bay.

Date.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
1	29.6164	29.8045	30.2578	30.4057	30.1542	29.8631	29.7930	30.0073	29.6840	29.9050	30.3172	30.4084
2	29.6324	29.7223	30.0376	30.3879	30.0016	29.9092	29.6360	29.9670	29.6210	29.7214	30.4480	30.3178
3	29.6065	29.5788	29.8237	30.1333	29.8734	29.9640	29.5490	30.0905	29.7270	29.8120	30.5910	30.0548
4	29.6165	29.7875	29.6432	29.9982	29.7690	30.0372	29.5570	29.9798	29.7210	29.9220	30.6520	29.6869
5	29.7045	30.0800	29.8118	29.9664	29.9520	29.9670	29.5640	30.0426	29.7420	30.0190	30.1930	29.7348
6	29.7643	30.1844	29.9856	29.9239	30.0863	29.8820	29.5710	29.9859	29.8260	29.9560	30.1430	30.3211
7	29.9263	30.0574	30.1553	30.0158	30.1258	29.8143	29.5780	29.9255	29.8370	29.8690	30.4080	30.2990
8	29.7972	29.7715	30.3772	30.2066	30.0327	29.8312	29.5860	29.9283	29.7390	29.8370	30.0800	30.0031
9	29.6456	29.5521	30.2134	30.0783	29.8538	29.8830	29.5930	29.9095	29.6890	29.9460	30.1313	29.6215
10	29.5204	29.4981	29.8735	30.0586	29.5932	29.9551	29.6000	29.8313	29.6370	29.8370	30.4410	29.5500
11	29.6660	29.6368	29.9044	30.0444	29.6848	30.1550	29.6070	29.7724	29.7440	29.9470	30.5320	29.3406
12	29.6583	29.8375	29.6083	29.9859	30.0423	30.1140	29.6150	29.8311	29.9760	29.8420	30.2720	29.3609
13	29.7098	30.0713	29.8600	29.8795	30.2178	30.0290	29.8150	29.9006	30.1040	29.9060	30.0520	29.3388
14	29.7030	30.0482	30.0779	29.9806	30.3411	30.0159	29.8380	30.0111	29.8820	29.7860	30.3860	29.5555
15	29.7489	29.9771	30.0469	30.2651	30.5263	30.0510	30.0150	29.9787	29.9820	29.6790	30.3840	29.6578
16	29.9370	30.1704	29.9633	30.4117	30.5865	29.9279	30.1720	29.8871	30.2210	29.8050	30.2290	30.1710
17	30.0330	29.6001	30.1583	30.2881	30.5358	29.9538	29.9520	29.8933	30.1290	29.9770	30.3950	30.2133
18	30.2608	29.2308	30.3100	30.3466	30.4509	30.0331	29.7810	29.8928	30.3590	29.9880	30.2670	29.7130
19	30.2035	29.7252	30.1135	30.7360	30.5573	29.9151	29.8760	29.8771	30.4090	29.8750	30.0260	29.4342
20	29.8091	29.6020	29.9744	30.5070	30.4191	29.7320	29.8490	30.1725	30.3010	29.7770	30.0640	29.7361
21	29.7883	30.0037	30.3313	30.1516	30.0044	29.6031	29.7240	30.0524	30.1090	29.6910	30.2030	29.8886
22	29.6214	30.1446	30.5567	29.8798	29.7388	29.5590	29.7262	29.8423	30.1520	29.8530	30.3120	29.6863
23	29.7252	30.1955	30.6562	30.0748	29.4689	29.5490	29.9420	30.1003	30.3220	29.5790	30.4690	29.2610
24	29.4625	29.9879	30.6806	30.2428	29.4248	29.5950	30.0090	30.2199	30.3860	29.8390	30.0380	29.4030
25	29.6038	29.4120	30.7212	30.2675	29.5336	29.7589	29.9739	30.1477	30.4790	30.0990	29.8550	29.5520
26	29.9150	29.9507	30.4343	30.4534	29.6834	29.8241	29.9750	30.0844	30.2520	30.2300	30.0320	29.4809
27	30.0495	30.3500	30.4935	30.4754	29.8966	29.6550	30.0130	30.0039	29.9755	30.4430	30.0590	29.7624
28	30.0842	30.4553	30.4170	30.3923	30.1058	29.6910	29.8990	29.9906	29.8910	30.5840	29.5120	29.8237
29	29.7179	30.2019	30.4116	30.3109	30.2161	29.7450	29.7830	30.1055	29.8890	30.4480	30.2220	29.6795
30	29.6199	....	30.3968	30.2609	30.0873	29.7960	29.8030	30.1533	29.8160	30.4410	30.4310	29.5863
31	29.7335	....	30.3605	....	29.8983	....	29.9870	30.1415	....	30.3540	....	29.6126
Means...	29.7750	29.8865	30.1963	30.2030	30.0294	29.8885	29.7866	29.9916	29.9827	29.9665	30.2381	29.7502

Hourly means of atmospheric pressure at Polaris Bay.

Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0h	29.7548	29.8919	30.1863	30.2027	30.0349	29.8666	29.7819	29.9715	29.9829	29.9691	30.2223	29.7591
1	29.7538	29.8889	30.1817	30.2079	30.0345	29.8972	29.7831	29.9725	29.9829	29.9691	30.2268	29.7603
2	29.7622	29.8929	30.1830	30.2079	30.0356	29.9034	29.7830	29.9751	29.9829	29.9691	30.2239	29.7647
3	29.7576	29.8649	30.1879	30.2094	30.0421	29.9037	29.7822	29.9926	29.9829	29.9691	30.2279	29.7643
4	29.7604	29.8661	30.1897	30.2143	30.0431	29.9045	29.7840	29.9891	29.9829	29.9691	30.2309	29.7611
5	29.7669	29.8638	30.1937	30.2217	30.0437	29.9069	29.7849	29.9928	29.9829	29.9691	30.2389	29.7564
6	29.7735	29.8948	30.1980	30.2236	30.0439	29.9074	29.7849	29.9929	29.9811	29.9887	30.2479	29.7565
7	29.7741	29.8965	30.1971	30.2219	30.0460	29.9067	29.7548	30.0006	29.9829	29.9691	30.2354	29.7555
8	29.7728	29.8568	30.2050	30.2162	30.0447	29.9068	29.7551	30.0006	29.9829	29.9691	30.2347	29.7492
9	29.7736	29.8963	30.2005	30.2165	30.0459	29.9007	29.7570	30.0006	29.9829	29.9691	30.2399	29.7489
10	29.7825	29.8965	30.2022	30.2141	30.0425	29.8949	29.7871	30.0000	29.9829	29.9691	30.2385	29.7515
11	29.7792	29.8944	30.2070	30.2068	30.0251	29.8876	29.7890	30.0026	29.9829	29.9691	30.2419	29.7555
Noon.	29.7766	29.8890	30.2061	30.2023	30.0192	29.8814	29.7881	29.9991	29.9829	29.9691	30.2344	29.7395
1h	29.7756	29.8823	30.2068	30.1898	30.0121	29.8751	29.7889	29.9963	29.9829	29.9691	30.2349	29.7402
2	29.7788	29.8790	30.2071	30.1898	30.0150	29.8588	29.7889	29.9959	29.9743	29.9211	30.2461	29.7436
3	29.7845	29.8784	30.2111	30.1894	30.0133	29.8711	29.7878	29.9957	29.9829	29.9691	30.2381	29.7499
4	29.7908	29.8782	30.2103	30.1886	30.0113	29.8727	29.7931	29.9973	29.9829	29.9691	30.2377	29.7491
5	29.7870	29.8869	30.1809	30.1872	30.0133	29.8729	29.7941	29.9953	29.9829	29.9691	30.2430	29.7476
6	29.7892	29.8891	30.1843	30.1899	30.0137	29.8776	29.7951	29.9968	29.9829	29.9691	30.2413	29.7498
7	29.7850	29.8865	30.1937	30.1895	30.0267	29.8827	29.7991	29.9848	29.9829	29.9691	30.2452	29.7496
8	29.7857	29.8996	30.1963	30.1893	30.0271	29.8835	29.8011	29.9877	29.9829	29.9691	30.2416	29.7414
9	29.7856	29.8962	30.1942	30.1945	30.0243	29.8848	29.8040	29.9867	29.9829	29.9691	30.2493	29.7426
10	29.7829	29.9047	30.1971	30.1951	30.0244	29.8870	29.8050	29.9827	29.9829	29.9691	30.2446	29.7345
11	29.7762	29.8978	30.1927	30.1966	30.0239	29.8905	29.8042	29.9791	29.9883	29.9356	30.2497	29.7344
Means...	29.7750	29.8865	30.1963	30.2030	30.0294	29.8885	29.7866	29.9916	29.9827	29.9665	30.2381	29.7502

ANNUAL FLUCTUATION OF ATMOSPHERIC PRESSURE AT POLARIS BAY.

In order to treat the preceding observations analytically, the following means were calculated:

Months.	Mean barometer of actual months.	Mean barometer of equi-interval.	Months.	Mean barometer of actual months.	Mean barometer of equi-interval.
	Inches.	*Inches.*		*Inches.*	*Inches.*
January	29.7750	29.7722	July	29.7866	29.7900
February	29.8865	29.8959	August	29.9916	29.9912
March	30.1963	30.1977	September	29.9827	29.0223
April	30.2030	30.1979	October	29.9665	29.9676
May	30.0294	30.0227	November	30.2381	30.2409
June	29.8885	29.8858	December	29.7502	29.7394
Annual mean = 29.9769.					

The analytical elements and expression made use of are as follows:

n	a_n	b_n	B_n	C_n
				° ′ ″
1	−0.02260	+0.02905	0.036808	322 7 17
2	−0.11804	−0.14142	0.18420	219 51 00
3	+0.02986	−0.06856	0.07047	156 28 00
4	−0.01566	−0.06105	0.06303	194 23 00

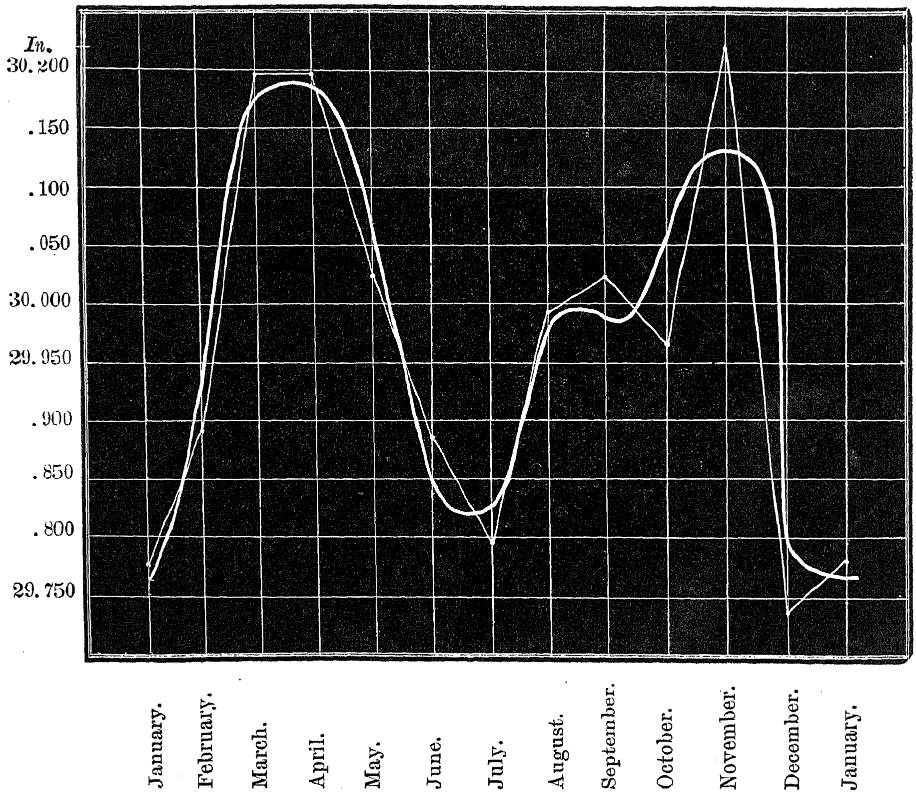
$$B = 29.9769 + 0.036808 \sin(x + 322^\circ\ 7'\ 17'') + 0.1842 \sin(2x + 219^\circ\ 51')$$
$$+ 0.07047 \sin(3x + 156^\circ\ 28') + 0.06303 \sin(4x + 194^\circ\ 23')$$

By means of the above expression, the following values were obtained:

Months.	Observed.	Computed.	Difference, O. — C.
	Inches.	*Inches.*	*Inches.*
January	29.7722	29.7643	+0.0079
February	29.8959	29.9396	−0.0437
March	30.1977	30.1727	+0.0250
April	30.1979	30.1839	+0.0140
May	30.0227	30.0703	−0.0476
June	29.8858	29.8375	+0.0483
July	29.7900	29.8260	−0.0360
August	29.9912	29.9882	+0.0030
September	30.0223	29.9854	+0.0369
October	29.9676	30.0348	−0.0672
November	30.2409	30.1313	+0.1096
December	29.7394	29.7896	−0.0502
Mean and difference	29.9769	29.9769	±0.0000

According to the above table the absolute maximum of $30^{in}.1839$, as computed, occurs in April, corresponding to a relative maximum as observed, and the absolute minimum in January, while the observed minimum is reached a month sooner.

The following diagram will illustrate the annual fluctuation more strikingly:



Evidently, the true maximum is the one occurring in April, that in November being merely accidental, although there seems to be a tendency to a higher pressure in autumn at most of the different arctic stations. An examination of the Port Foulke observations shows that at this locality there is also a relative maximum in November. At Rensselaer Harbor there is also a slight indication of a secondary maximum corresponding to the one under consideration, and the same is the case at Sabine Island, where a relative maximum occurs in the same month as at Polaris Bay. The curve of Port Kennedy shows similar features.

The annual fluctuation, as represented above, is the result of the combined pressure of the dry air with the pressure of the aqueous vapor. By eliminating the influence due to the latter, we get the following values:

Annual fluctuation of atmospheric pressure corrected for the influence of force of vapor.

Months.	Inches.	Months.	Inches.
January	29.7556	July	29.6348
February	29.9513	August	29.8219
March	30.1627	September	29.8729
April	30.1565	October	29.9895
May	29.9847	November	30.0968
June	29.6815	December	29.7771
Corrected mean = 29.9071.			

The following table contains the monthly mean values of atmospheric pressure, as observed at seven different localities in the arctic regions. The maxima are denoted by asterisks, while the minima are placed between parentheses:

Monthly means of atmospheric pressure at several stations.

Months.	1871–72. Polaris Bay, lat. 81°.6.	1853–54–55. Rensselaer Harbor, lat. 78°.6	1872–73. Polaris House, lat. 78°.4	1860–61. Port Foulke, lat. 78°.3	1857–58. Baffin's Bay, lat. 72°.5	1858–59. Port Kennedy, lat. 72°.0	1869–70. Sabine Island, lat. 74°.5
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
January ...	29.7750	29.778	29.695	29.834	(29.532)	29.979	29.785
February ..	29.8865	29.848	29.907	29.747	29.649	29.933	29.978
March	30.1963	29.750	29.800	29.816	29.893	30.173	*30.168
April	30.2030	29.903	*30.217	30.058	29.940	*30.179	29.866
May	30.0294	*29.942	30.048	29.985	*30.014	30.010	29.873
June	29.8885	29.719	....	29.678	29.817	29.913	29.919
July.......	29.7866	29.741	....	29.691	29.753	(29.704)	(29.708)
August	29.9916	29.694	....	29.662	29.736	29.741	29.946
September .	29.9827	(29.658)	....	29.684	29.735	29.899	29.859
October....	29.9665	29.755	....	(29.618)	29.756	29.798	29.868
November .	*30.2381	29.758	29.934	*30.087	29.665	30.052	29.763
December..	(29.7502)	29.753	29.857	30.032	29.570	29.872	29.799
Means ...	29.974	29.775	....	29.824	29.755	29.938	29.878

The above observations, extending over but a comparatively short period of time, no general conclusions can be drawn from them, because the atmospheric pressure is very variable from year to year, as an examination of the observations made at Rensselaer Harbor will readily demonstrate. It will be seen, for instance, that the barometric mean of January, 1855, differs by $0^{in}.631$ from that of the same month in 1854; the difference in February being smaller, although exceeding $0^{in}.3$.

Returning to our table, we see that at Sabine Island the observed maximum occurs in March, at Polaris House and at Port Kennedy in April; while in Baffin's Bay and at Rensselaer Harbor it is found in May. Both at Polaris Bay and Port Foulke the absolute maximum, as observed, occurs in November, during which month the respective computed curves show a secondary maximum, as stated above. In Baffin's Bay the minimum was observed in January, at Port Kennedy and Sabine Island in July, while at Rensselaer Harbor it occurred in September. At Port Foulke the month of lowest pressure is October, and at Polaris Bay it is December. At the two stations last mentioned the highest and lowest pressure occur in two consecutive months. At Polaris Bay the absolute maximum in November is followed by the absolute minimum in December, and at the other locality the absolute minimum of October precedes the absolute maximum, which is reached in the following month.

THE DIURNAL FLUCTUATION OF ATMOSPHERIC PRESSURE AT POLARIS BAY.

The diurnal fluctuation of atmospheric pressure is best represented by the deviation of the hourly means from the annual mean. Taking, therefore, the annual means of every hour of the day, we obtain the following elements for the analytical expression:

$a_1 = -0.00243$	$b_1 = +0.00324$	$B_1 = 0.00405$	$C_1 = 323°\ 3'\ 10''$
$a_2 = -0.00079$	$b_2 = -0.00295$	$B_2 = 0.00305$	$C_2 = 195°\ 51'\ 40''$
$a_3 = -0.00065$	$b_3 = -0.00133$	$B_3 = 0.00148$	$C_3 = 206°\ 13'\ 40''$
$a_4 = -0.00022$	$b_4 = +0.00175$	$B_4 = 0.00177$	$C_4 = 352°\ 48'\ 30''$

The analytical expression, therefore, assumes the following form:

$$B = 29.9769 + 0.00405 \sin(x + 323°\ 3'\ 10'') + 0.00305 \sin(2x + 195°\ 51'\ 40'')$$
$$+ 0.00148 \sin(3x + 206°\ 13'\ 40'') + 0.00177 \sin(4x + 352°\ 48'\ 30'')$$

The period is referred to 0^h as its beginning, and the angle x increases at the rate of 15° per hour. The following table contains the observed and computed means, as well as the deviation from the annual mean:

Time.	Observed hourly mean.	Computed hourly mean.	Difference, (O.—C.)	Deviation from annual mean.
	Inches.	*Inches.*	*Inches.*	*Inches.*
0^h	29.9687	29.9727	—0.0040	—0.0041433
1	29.9716	29.9732	—0.0016	—0.0036969
2	29.9736	29.9737	—0.0001	—0.0031478
3	29.9737	29.9742	—0.0005	—0.0026256
4	29.9746	29.9756	—0.0010	—0.0012969
5	29.9784	29.9784	±0.0000	+0.0015189
6	29.9813	29.9821	—0.0008	+0.0051755
7	29.9883	29.9847	+0.0036	+0.0078320
8	29.9845	29.9848	—0.0003	+0.0079594
9	29.9877	29.9826	+0.0051	+0.0057707
10	29.9801	29.9800	+0.0001	+0.0031202
11	29.9784	29.9787	—0.0003	+0.0018295
Noon.	29.9839	29.9789	+0.0050	+0.0020309
1^h	29.9812	29.9790	+0.0022	+0.0021281
2	29.9773	29.9774	—0.0001	+0.0004828
3	29.9726	29.9741	—0.0015	—0.0028092
4	29.9727	29.9711	+0.0016	—0.0057741
5	29.9706	29.9706	±0.0000	—0.0062713
6	29.9725	29.9729	—0.0004	—0.0039483
7	29.9754	29.9762	—0.0008	—0.0006312
8	29.9746	29.9781	—0.0035	+0.0012256
9	29.9762	29.9744	+0.0018	+0.0005493
10	29.9758	29.9786	—0.0028	—0.0016812
11	29.9716	29.9733	—0.0017	—0.0035971
Means...	29.9769	29.9769	±0.0000	±0.0000000

Denoting the deviations from the annual mean in the order in which they appear in the above table by $v_0, v_1, v_2, \ldots . v_{23}$, we obtain for the probable errors—

$v^2_0 = 0.00001717522249$	$v^2_6 = 0.00002678580025$	$v^2_{12} = 0.00000412455481$	$v^2_{18} = 0.00001558907289$
$v^2_1 = 0.00001366706961$	$v^2_7 = 0.00006134022400$	$v^2_{13} = 0.00000452880961$	$v^2_{19} = 0.00000039841344$
$v^2_2 = 0.00000990864484$	$v^2_8 = 0.00006335204836$	$v^2_{14} = 0.00000023309584$	$v^2_{20} = 0.00000150209536$
$v^2_3 = 0.00000689377536$	$v^2_9 = 0.00003330097849$	$v^2_{15} = 0.00000789160464$	$v^2_{21} = 0.00000030173049$
$v^2_4 = 0.00000168194961$	$v^2_{10} = 0.00000973564804$	$v^2_{16} = 0.00003334023081$	$v^2_{22} = 0.00000282643344$
$v^2_5 = 0.00000230705721$	$v^2_{11} = 0.00000334707025$	$v^2_{17} = 0.00003932920369$	$v^2_{23} = 0.00001293912841$

Denoting the sum of the squares of any numbers v_0, v_1, v_2, &c., by $[v\,v]$ we have in the present case—

$$[v\,v]=0.00037249986194$$

The probable error of any one representation is expressed by—

$$p_r=0.674489\sqrt{\frac{[v\,v]}{23}}$$

and the probable error of the annual mean by—

$$p_m=\frac{0.674489\ \sqrt{[v\,v]}}{23}$$

Substituting therein the value for $[v\,v]$ we obtain—

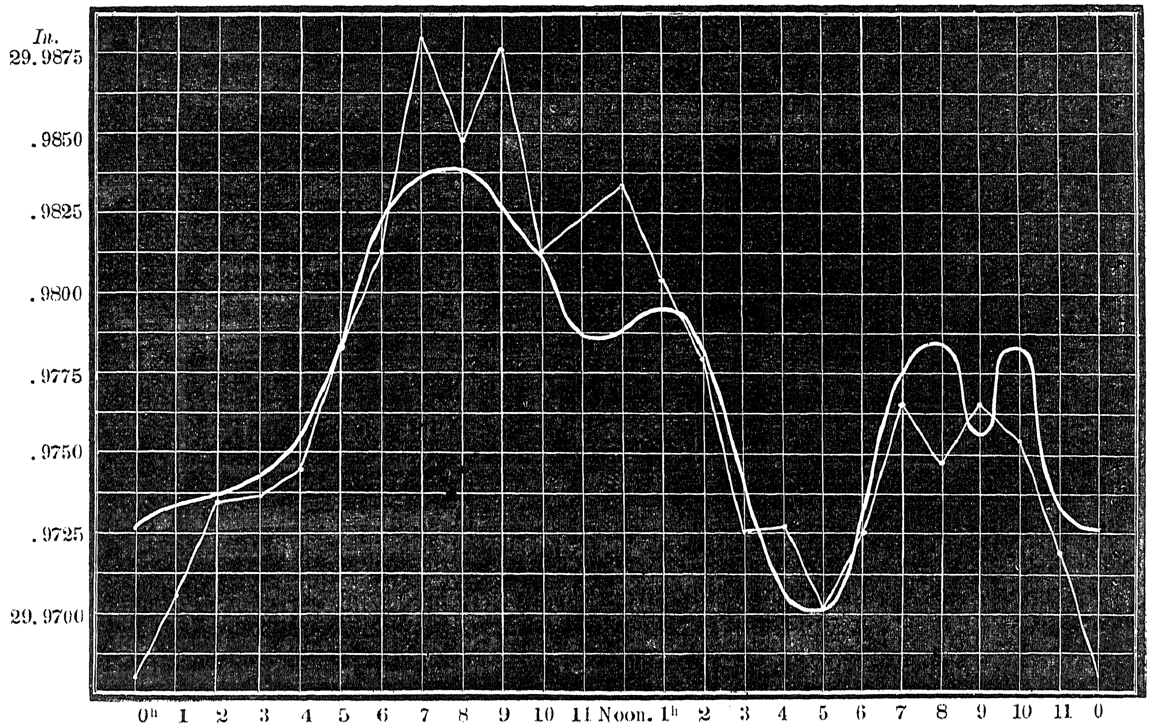
$$p_r = \pm\ 0.00271\ldots$$
$$p_m = \pm\ 0.00057$$

The probable error of any single hourly mean is, therefore, almost five times as large as that of the annual mean; or, more accurately—

$$\frac{p_r}{p_m}= 4.7957\ \ldots$$

The following diagram exhibits the diurnal fluctuation of the atmospheric pressure as derived from the preceding table:

Diurnal fluctuation of atmospheric pressure.



If the atmospheric pressure at Polaris Bay was not abnormal in 1871 and 1872, then the features of the diurnal curve differ considerably from those of the neighboring stations, being more in accordance with those manifested in the temperate zone. By the aid of the diagram the absolute maximum will be found to occur at about 8^h a. m., while the absolute minimum is reached at about 5^h p. m. If we consider the minima occurring respectively at about $11^h\ 30^m$ a. m. and at 9^h p. m. to be accidental, then we shall have a maximum at about 10^h p. m., and a secondary minimum at about midnight.

Among the different arctic stations our curve shows the greatest resemblance with that of Sabine Island, where (according to the formula) the forenoon maximum is reached at $10^h\ 34^m$ and the evening maximum at $9^h\ 45^m$, while the two minima occur at $3^h\ 40^m$ a. m. and at $4^h\ 35^m$ p. m., respectvely. At Fort Foulke, (compare diagram on page 217, *loc. cit.*,) there is a very slight indication of a maximum at about $7^h\ 30^m$ a. m., while the absolute maximum occurs at about $6^h\ 30^m$ p. m.; at Rensselaer Harbor the highest pressure during the day is reached at about 10^h p. m. and at Port Kennedy and Baffin's Bay at about $7^h\ 30^m$ p. m. The principal minimum at Port Foulke occurs at about 3^h a. m. At Rensselaer Harbor the (secondary) minimum is reached about 4^h a. m. and at Port Kennedy and Baffin's Bay at about $4^h\ 30^m$ a. m.

At Polaris Bay the diurnal range is $0^{in}.0142$, to which we add the following values for comparison:

	Inches.
Rensselaer Harbor	0.010
Port Foulke	0.017
Sabine Island	0.005
Baffin's Bay	0.028
Port Kennedy	0.048

The theory established by Daniell, and favored by quite a number of modern meteorologists, that the diurnal fluctuation would vanish almost entirely in high latitudes, does not find any support in the table above given. Most likely the theory does not hold good in this instance, as the dis-

crepancies seem to increase with the growing number of observations, which circumstance ought to induce us to abandon this theory, unless it be confirmed by subsequent observations. Between the latitude of Port Kennedy and that of Rensselaer Harbor, except at Sabine Island, a decided decrease evidently takes place; but at Polaris Bay, which is situated in the region where the diurnal range was supposed to vanish, we find the diurnal fluctuation to be greater than at Rensselaer Harbor, situated three degrees to the south of this station, and almost as great as at Port Foulke.

After having corrected the diurnal fluctuation for the influence of the force of vapor, the hourly values will run as follows:

Diurnal fluctuation of atmospheric pressure at Polaris Bay, corrected for force of vapor.

Time.	Inches.	Time.	Inches.	Time.	Inches.	Time.	Inches.
0^h	29.9018	6^h	29.9083	Noon.	29.9035	6^h	29.8993
1	29.9024	7	29.9104	1^h	29.9034	7	29.9033
2	29.9027	8	29.9102	2	29.9018	8	29.9057
3	29.9027	9	29.9077	3	29.8988	9	29.9024
4	29.9034	10	29.9050	4	29.8962	10	29.9071
5	29.9054	11	29.9036	5	29.8963	11	29.9021

An examination of the above table will show both the relative minimum and maximum at $11^h\ 30^m$ a. m. and 1^h p. m. to disappear, the curve assuming a more regular character, if we except the abnormal minimum occurring at 9^h p. m.

For the sake of comparison the following table was formed, containing the diurnal fluctuation of atmospheric pressure for six stations situated in the arctic regions, and arranged according to decreasing latitude. For some of these stations only bihourly observations existed; we therefore have given bihourly observations at all, in order to make the table more uniform:

Time.	Polaris Bay, $\phi = 81°.6$.	Rennselaer Harbor, $\phi = 78°.6$.	Port Foulke, $\phi = 78°.3$.	Sabine Island, $\phi = 74°.5$.	Port Kennedy, $\phi = 72°.9$.	Baffin's Bay, $\phi = 72°.5$.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
2^h	29.973	29.765	29.818	29.876	29.906	29.738
4	29.974	29.766	29.820	29.875	29.897	29.730
6	29.981	29.766	29.812	29.877	29.894	29.726
8	29.984	29.762	29.826	29.878	29.923	29.731
10	29.980	29.764	29.822	29.880	29.935	29.750
Noon.	29.984	29.763	29.820	29.879	29.933	29.743
2^h	29.977	29.759	29.820	29.877	29.936	29.745
4	29.973	29.763	29.825	29.875	29.939	29.753
6	29.972	29.767	29.835	29.877	29.940	29.756
8	29.975	29.769	29.829	29.880	29.943	29.756
10	29.976	29.771	29.831	29.881	29.934	29.753
12	29.969	29.768	29.829	29.879	29.925	29.743

After having discussed the diurnal fluctuation during the year, it may be interesting to investigate how far the law stated above will hold good during the different seasons. In constructing the curves representing the diurnal fluctuation during the latter, we used the computed values for each of the three different months constituting one season, and took the mean of the same. This was done to save the labor involved in establishing the analytical expressions for the respective seasons, as for certain reasons we had thought it proper to treat each month analytically; but we abstain from giving these results, they being without any value for the present discussion. Owing to the shortness of the period over which the series of observations in question extends, the law governing the diurnal fluctuation during the year can scarcely be recognized in the curves exhibiting the diurnal fluctuation of the different seasons. In winter the absolute maximum of $29^{in}.8184$ occurs at about 5^h p. m., and the absolute minimum of $29^{in}.7971$ at midnight, the curve thus showing a range of $0^{in}.0213$, oscillating irregularly between the hours of highest and lowest pressure.

In spring the curve is less irregular, passing through the maximum of $30^{in}.1542$ at about 6^h 45^m a. m. and through the minimum of $30^{in}.1332$ at 7^h p. m., its range differing only by two units in the fourth decimal from that of the preceding season. In summer the maximum of $29^{in}.8949$ is reached at 6^h a. m. and the minimum of $29^{in}.8767$ at midnight, the range being $0^{in}.0182$. The autumn curve shows a decided maximum of $30^{in}.0726$ at about 5^h a. m. and a well-marked minimum of $30^{in}.0536$ at about 11^h p. m., exhibiting a range of $0^{in}.0190$. During each season the diurnal range is greater than that of the year, the smallest range occurring in summer and the greatest in winter, the former differing by $0^{in}.0040$ and the latter by $0^{in}.0071$ from the diurnal range during the year.

The following table contains the maxima and minima of atmospheric pressure as observed during each month. It need hardly be mentioned that the values given are reduced to 32° F., and to the level of the sea:

Monthly extremes.

Months.	Maximum.	Date.		Minimum.	Date.		Range.
	Inches.		*h.*	*Inches.*		*h.*	*Inches.*
January	30.338	18	9 p. m	29.390	24	6 and 8 p. m.	0.948
February	30.551	28	2 a. m	28.827	17	11 p. m	1.724
March	30.804	25	3 a. m	29.483	12	1 p. m	1.321
April	30.777	19	4 p. m	29.514	22	10 p. m	1.263
May	30.631	16	11 p. m	29.389	23	2 p. m	1.242
June	30.187	11	10 a. m	29.486	21	5 p. m	0.701
July	30.228	16	10 a. m	29.521	3	11 p. m	0.707
August	30.257	20	11 a. m	29.748	11	7 p. m	0.509
September	30.521	25	7 a. m	29.513	2	7 a. m	1.008
October	30.590	28	7 a. m. and 2 p. m.	29.523	8	11 p. m	1.067
November	30.672	4	5 a. m	29.159	28	3 p. m	1.513
December	30.536	1	1 a. m	29.120	24	0 a. m	1.416

According to the above table February shows the greatest and August the smallest range; it will also be seen that in most instances the maxima occur during the forenoon and the minima during the afternoon.

As was the case at Port Foulke and at Rensselaer Harbor, the greatest range at Polaris Bay occurs in winter and the least in summer. The extreme observed ranges of this and other localities in the arctic regions compare as follows:

Locality.	Maximum.	Date.	Minimum.	Date.	Range.
	Inches.		*Inches.*		*Inches.*
Polaris Bay	30.804	Mar. 25, 1872	28.827	Dec. 24, 1871	1.977
Rensselaer Harbor	30.97	Jan. 22, 1855	28.84	Feb. 19, 1854	2.13
Port Foulke	30.74	Nov. 25, 1860	28.93	Oct. 16, 1860	1.81
Baffin's Bay	30.93	Jan. 30, 1858	28.64	Mar. 11, 1858	2.29
Port Kennedy	31.06	Apr. 12, 1859	28.76	July 10, 1859	2.30
Sabine Island	30.825	Mar. 11, 1870	28.877	Oct. 30, 1869	1.948

BARIC WIND-ROSE OF POLARIS BAY.

To obtain the dependency of the atmospheric pressure upon the direction of the wind the following method of discussion was adopted:

The monthly means of atmospheric pressure for the hours midnight, 6^h a. m., noon, and 6^h p. m. were subtracted from the observed readings at those hours for every day of the year, (as far as they were on hand,) and the differences thus obtained were considered to be due to the direction of the winds prevailing at the hours 0^h, 6^h a. m., 12^h, and 6^h p. m. These differences were found to be positive and negative for the same directions of wind; the mean of the differences are then

considered as the mean effect of the winds from the respective directions, which is either positive or negative, *i. e.*, elevating or depressing, as shown in the table below:

S.	SW.	W.	NW.	N.	NE.	E.	SE.	Calm.
+0.0164	+0.0202	—0.0032	—0.0262	+0.0336	—0.0406	—0.0133	+0.0060	+0.0195

For the analytical expression we obtain the following elements:

$a_1 = +0.012135$ | $b_1 = +0.00758$ | $B_1 = 0.014308$ | $C_1 = 58° \ 0' \ 30''$
$a_2 = +0.016625$ | $b_2 = -0.00005$ | $B_2 = 0.016625$ | $C_2 = 161° \ 36' \ 30''$

The analytical expression now assumes the following form:

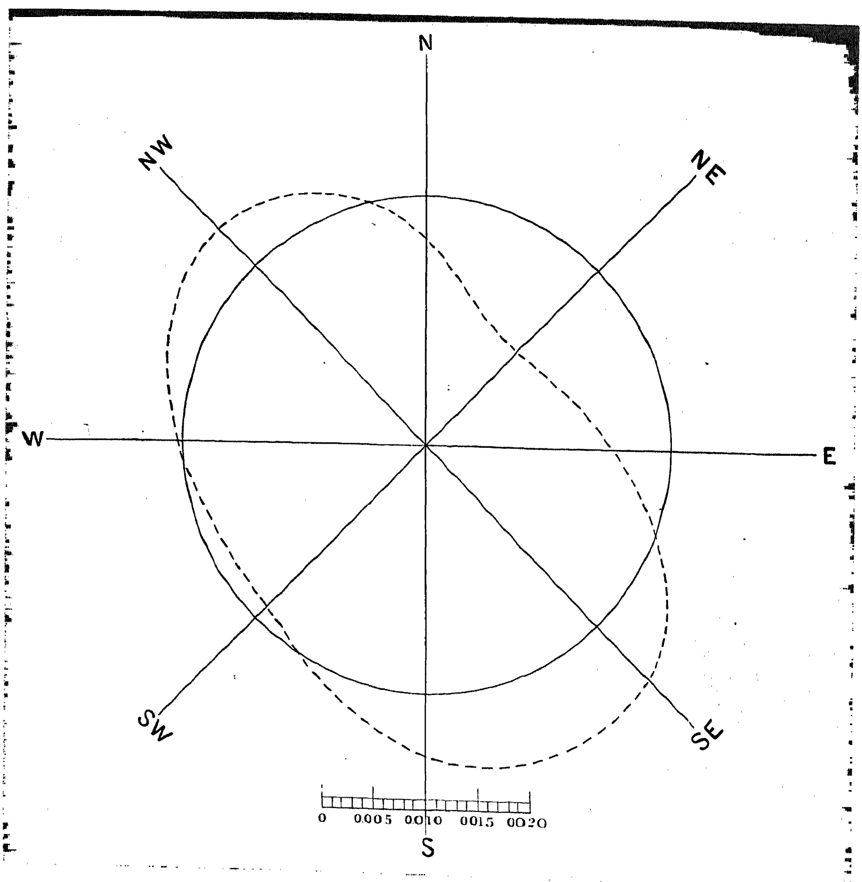
$$\triangle = -0.0008875 + 0.014308 \sin(x + 58° \ 0' \ 30'') + 0.016625 \sin(2x + 161° \ 36' \ 30'')$$

The period is here referred to the direction S., and the angle x reads in the direction SW., W., NW., &c.

Substituting $x=0$, $x=45°$, $x=90°$, &c., we obtain in this succession the elevating or depressing effect for the winds from the directions S., SW., W., &c., as given in the following table:

Direction.	S.	SW.	W.	NW.	N.	NE.	E.	SE.
Observed....	+0.0164	+0.0202	—0.0032	—0.0262	+0.0336	—0.0406	—0.0133	+0.0060
Computed...	+0.0164929	—0.0027227	+0.0014474	+0.0116679	—0.0077771	—0.0306043	—0.0137132	+0.0181091
Difference...	+0.0000929	—0.0229227	+0.0046474	+0.0378679	—0.0413771	+0.0099957	—0.0004132	+0.0121091

The computed effect of the wind is represented graphically on the following diagram, where the elevating or depressing effect is measured from the circumference of the circle in the directions to and from the center, respectively:



The following table, containing the corrections to be applied to any hourly observation, taken at Polaris Bay, is derived directly from the table giving the hourly means, following the original record of observations:

Corrections to be applied to any hourly observation, taken at Polaris Bay, to obtain the mean atmospheric pressure of the day.

Time.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	+0.0158	—0.0089	+0.0202	—0.0054	+0.0100	+0.0003	—0.0054	+0.0219	+0.0047	+0.0201
1	0.0113	0.0101	0.0212	0.0024	0.0146	—0.0049	0.0051	—0.0087	0.0035	0.0191
2	0.0142	0.0145	0.0128	—0.0064	0.0133	0.0049	0.0062	0.0149	0.0036	+0.0165
3	0.0102	0.0141	0.0174	+0.0216	0.0084	0.0064	0.0127	0.0152	0.0044	—0.0010
4	+0.0072	0.0109	0.0146	0.0204	0.0066	0.0113	0.0137	0.0160	0.0026	+0.0025
5	—0.0008	0.0062	0.0081	+0.0227	+0.0026	0.0187	0.0143	0.0184	0.0017	—0.0012
6	—0.0098	0.0063	0.0015	—0.0083	—0.0017	0.0206	0.0145	0.0189	0.0017	0.0013
7	+0.0027	—0.0053	0.0009	—0.0100	0.0008	0.0189	0.0166	0.0182	0.0318	0.0090
8	+0.0034	+0.0010	0.0022	+0.0293	0.0087	0.0132	0.0153	0.0183	0.0315	0.0090
9	—0.0018	+0.0013	+0.0014	—0.0098	0.0042	0.0135	0.0165	0.0122	+0.0296	0.0090
10	0.0004	—0.0013	—0.0075	0.0100	0.0059	0.0111	—0.0131	—0.0064	—0.0005	0.0084
11	—0.0038	—0.0053	0.0042	0.0079	0.0107	—0.0038	+0.0043	+0.0009	0.0024	0.0110
Noon.	+0.0037	+0.0107	0.0016	—0.0025	0.0098	+0.0007	0.0102	0.0071	0.0015	0.0075
1^h	+0.0032	0.0100	0.0005	+0.0042	0.0105	0.0132	0.0173	0.0134	0.0023	0.0047
2	—0.0080	0.0066	0.0038	0.0075	0.0108	0.0132	0.0154	0.0297	0.0023	0.0043
3	±0.0000	0.0003	0.0145	0.0081	0.0148	0.0136	0.0161	0.0174	0.0012	0.0041
4	+0.0004	0.0011	0.0158	+0.0083	—0.0140	0.0144	0.0181	0.0158	0.0065	0.0057
5	—0.0049	0.0026	0.0120	—0.0004	+0.0154	0.0158	0.0161	0.0156	0.0075	0.0037
6	0.0032	0.0004	0.0142	—0.0026	0.0120	0.0131	0.0157	0.0109	0.0085	—0.0052
7	0.0071	0.0006	0.0100	±0.0000	+0.0026	0.0135	0.0027	0.0058	0.0125	+0.0068
8	0.0035	0.0088	0.0107	—0.0131	±0.0000	0.0137	0.0023	0.0050	0.0145	0.0039
9	0.0112	0.0076	0.0106	0.0097	+0.0021	0.0085	0.0051	0.0037	0.0174	0.0049
10	0.0065	0.0157	0.0079	0.0182	—0.0008	0.0079	0.0050	+0.0015	0.0184	0.0089
11	—0.0116	+0.0158	—0.0012	—0.0113	+0.0036	+0.0064	+0.0055	—0.0020	—0.0176	+0.0125

RECORD AND DISCUSSION OF OBSERVATIONS ON ATMOSPHERIC PRESSURE MADE AT POLARIS HOUSE.

The observations on atmospheric pressure made at Polaris House from November 1, 1872, till June 1, 1873, were conducted precisely in the same manner as previously described. The Fortin-Green barometer was suspended on the southeastern wall of our hut, protected by a box, the lid of which was only opened when a reading was taken. The cistern of the instrument was 8.5 feet above the sea-level. For further reduction of the readings, referred to 32° F., the following table was used:

Correction due to 8.5 feet elevation above mean sea-level.

Barom.	—50°	—40°	—30°	—20°	—10°	±0°	+10°	+20°	+30°	+40°
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
28.5	+0.017	+0.016	+0.013	+0.012	+0.011	+0.010	+0.010	+0.010	+0.009	+0.009
29.0	0.018	0.016	0.014	0.012	0.011	0.010	0.010	0.010	0.010	0.009
29.5	0.018	0.016	0.014	0.013	0.011	0.010	0.010	0.010	0.010	0.010
30.0	0.018	0.017	0.015	0.013	0.012	0.011	0.011	0.010	0.010	0.010
30.5	0.019	0.017	0.015	0.013	0.012	0.011	0.011	0.011	0.011	0.010
31.0	+0.019	+0.017	+0.015	+0.013	+0.012	+0.011	+0.011	+0.011	+0.011	+0.010

The corrected readings will be found recorded hereafter.

Date.	NOVEMBER, 1872.											
Time.	1	2	3	4	5	6	7	8	9	10	11	12
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	30.172	30.170	29.865	29.616	29.793	29.783	29.774	29.917	30.202	30.250	30.207	30.184
1	30.148	30.155	29.869	29.613	29.808	29.681	29.809	29.938	30.220	30.237	30.224	30.193
2	30.177	30.141	29.855	29.599	29.800	29.698	29.800	29.945	30.223	30.230	30.239	30.185
3	30.172	30.122	29.876	29.617	29.803	29.721	29.801	29.969	30.233	30.207	30.253	30.191
4	30.182	30.210	29.885	29.642	29.804	29.715	29.800	29.968	30.264	30.185	30.263	30.188
5	30.206	30.076	29.883	29.652	29.804	29.717	29.786	29.966	30.302	30.169	30.266	30.193
6	30.205	30.185	29.886	29.658	29.799	29.747	29.798	29.989	30.298	30.139	30.280	30.190
7	30.216	30.044	29.876	29.670	29.807	29.727	29.797	29.994	30.292	30.126	30.278	30.195
8	30.220	30.034	29.854	29.679	29.791	29.726	29.805	30.012	30.299	30.103	30.277	30.194
9	30.201	30.011	29.835	29.685	29.761	29.730	29.813	30.019	30.303	30.067	30.287	30.191
10	30.204	29.997	29.838	29.704	29.759	29.723	29.814	30.040	30.316	30.041	30.252	30.183
11	30.199	29.984	29.817	29.710	29.738	29.729	29.819	30.052	30.327	30.023	30.281	30.179
Noon.	30.213	29.954	29.816	29.714	29.726	29.738	29.831	30.060	30.331	30.009	30.282	30.144
1^h	30.218	29.933	29.815	29.724	29.717	29.740	29.836	30.072	30.329	30.022	30.284	30.122
2	30.230	29.932	29.792	29.733	29.715	29.749	29.854	30.086	30.340	30.037	30.282	30.108
3	30.223	29.944	29.794	29.751	29.714	29.763	29.866	30.123	30.340	30.049	30.275	30.074
4	30.233	29.932	29.772	29.744	29.707	29.766	29.861	30.116	30.323	30.055	30.263	30.052
5	30.221	29.912	29.745	29.756	29.690	29.761	29.871	30.127	30.322	30.083	30.262	30.030
6	30.207	29.890	29.722	29.770	29.689	29.765	29.877	30.194	30.321	30.107	30.250	30.005
7	30.205	29.899	29.707	29.772	29.677	29.768	29.882	30.159	30.324	30.119	30.245	29.961
8	30.205	29.878	29.695	29.778	29.680	29.765	29.887	30.158	30.324	30.139	30.239	29.943
9	30.197	29.875	29.674	29.782	29.672	29.773	29.894	30.174	30.305	30.151	30.228	29.920
10	30.178	29.875	29.654	29.788	29.688	29.774	29.892	30.186	30.282	30.154	30.214	29.899
11	30.178	29.867	29.634	29.790	29.681	29.768	29.903	30.186	30.265	30.170	30.195	29.866
Means..	30.2004	30.0008	29.7899	29.7061	29.7426	29.7428	29.8363	30.0604	30.2988	30.1196	30.2553	30.0996

Date.	NOVEMBER, 1872.											
Time.	13	14	15	16	17	18	19	20	21	22	23	24
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	29.821	29.772	30.115	29.744	29.638	29.678	29.742	29.611	29.718	29.754	29.844	29.874
1	29.786	29.818	30.079	29.756	29.623	29.676	29.731	29.633	29.719	29.748	29.867	29.878
2	29.746	29.841	30.057	29.766	29.611	29.683	29.735	29.648	29.729	29.766	29.872	29.861
3	29.689	29.894	30.027	29.770	29.601	29.681	29.739	29.655	29.722	29.769	29.884	29.873
4	29.673	29.901	29.984	29.757	29.592	29.692	29.702	29.676	29.734	29.770	29.881	29.885
5	29.670	29.923	29.954	29.805	29.597	29.690	29.702	29.687	29.739	29.785	29.882	29.860
6	29.640	29.957	29.908	29.800	29.604	29.693	29.703	29.692	29.733	29.790	29.880	29.873
7	29.614	29.979	29.859	29.804	29.599	29.702	29.715	29.666	29.733	29.781	29.893	29.864
8	29.628	29.996	22.826	29.812	29.608	29.705	29.688	29.668	29.742	29.781	29.884	29.853
9	29.700	30.034	29.801	29.828	29.595	29.713	29.659	29.714	29.738	29.779	29.889	29.846
10	29.703	30.064	29.781	29.812	29.599	29.719	29.657	29.717	29.748	29.779	29.897	29.843
11	29.610	30.073	29.746	29.804	29.597	29.724	29.650	29.714	29.734	29.775	29.867	29.839
Noon.	29.588	30.093	29.721	29.798	29.599	29.736	29.643	29.713	29.731	29.785	29.909	29.845
1^h	29.583	30.097	29.686	29.801	29.595	29.753	29.632	29.717	29.741	29.795	29.893	29.839
2	29.607	30.133	29.664	29.784	29.604	29.760	29.621	29.721	29.740	29.802	29.894	29.833
3	29.618	30.146	29.674	29.776	29.645	29.772	29.618	29.721	29.735	29.817	29.899	29.828
4	29.646	30.157	29.652	29.769	29.655	29.777	29.598	29.724	29.731	29.817	29.893	29.827
5	29.656	30.171	29.631	29.747	29.664	29.764	29.591	29.719	29.727	29.818	29.886	29.817
6	29.666	30.173	29.611	29.730	29.660	29.764	29.591	29.717	29.721	29.823	29.883	29.811
7	29.670	30.185	29.648	29.712	29.670	29.755	29.586	29.714	29.726	29.823	29.887	29.815
8	29.686	30.167	29.667	29.694	29.666	29.745	29.590	29.718	29.740	29.826	29.887	29.840
9	29.727	30.161	29.680	29.669	29.670	29.745	29.590	29.717	29.737	29.834	29.875	29.802
10	29.737	30.162	29.702	29.656	29.668	29.736	29.592	29.727	29.743	29.834	29.872	29.794
11	29.741	30.133	29.720	29.644	29.671	29.730	29.597	29.724	29.742	29.841	29.872	29.795
Means..	29.6508	30.0429	29.7997	29.7808	29.6263	29.7247	29.6530	* 29.6964	29.7335	29.7955	29.8829	29.8415

Date.	NOVEMBER, 1872.						DECEMBER, 1872.					
Time.	25	26	27	28	29	30	1	2	3	4	5	6
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	29.788	29.843	30.115	30.147	30.223	30.324	30.574	30.096	29.659	29.629	29.691	29.792
1	29.789	29.845	30.117	30.157	30.224	30.330	30.571	30.058	29.679	29.627	29.700	29.793
2	29.787	29.866	30.125	30.168	30.229	30.344	30.565	30.046	29.674	29.647	29.706	29.782
3	29.799	29.871	30.135	30.168	30.232	30.371	30.576	30.023	29.675	29.664	29.714	29.762
4	29.789	29.869	30.139	30.193	30.247	30.381	30.582	30.017	29.683	29.663	29.725	29.767
5	29.773	29.875	30.138	30.189	30.257	30.390	30.564	29.996	29.685	29.654	29.727	29.750
6	29.776	29.881	30.132	30.190	30.263	30.411	30.541	29.941	29.687	29.653	29.734	29.763
7	29.773	29.879	30.126	30.204	30.257	30.410	30.521	29.883	29.687	29.655	29.737	29.748
8	29.775	29.908	30.128	30.206	30.264	30.416	30.486	29.889	29.676	29.651	29.742	29.746
9	29.777	29.910	30.130	30.196	30.269	30.423	30.481	29.889	29.676	29.656	29.749	29.721
10	29.782	29.930	30.126	30.186	30.269	30.448	30.450	29.845	29.667	29.656	29.747	29.718
11	29.785	29.943	30.126	30.182	30.271	30.469	30.422	29.818	29.672	29.670	29.768	29.710
Noon.	29.768	29.961	30.122	30.186	30.256	30.472	30.411	29.790	29.662	29.680	29.780	29.710
1^h	29.772	29.963	30.123	30.188	30.262	30.485	30.393	29.769	29.665	29.680	29.784	29.706
2	29.779	29.984	30.117	30.178	30.260	30.504	30.369	29.758	29.660	29.678	29.790	29.704
3	29.789	29.986	30.126	30.194	30.258	30.520	30.357	29.716	29.633	29.677	29.784	29.700
4	29.788	30.003	30.114	30.197	30.259	30.534	30.339	29.714	29.652	29.693	29.793	29.696
5	29.799	30.019	30.119	30.193	30.273	30.552	30.307	29.696	29.662	29.697	29.803	29.702
6	29.813	30.030	30.122	30.193	30.272	30.548	30.275	29.695	29.655	29.698	29.810	29.719
7	29.819	30.054	30.131	30.195	30.283	30.555	30.267	29.674	29.662	29.695	29.808	29.714
8	29.819	30.075	30.133	30.202	30.292	30.560	30.236	29.673	29.639	29.687	29.802	29.734
9	29.824	30.084	30.132	30.203	30.291	30.567	30.209	29.649	29.636	29.680	29.800	29.731
10	29.814	30.087	30.145	30.209	30.303	30.568	30.181	29.662	29.631	29.688	29.797	29.739
11	29.824	30.097	30.142	30.223	30.313	30.571	30.146	29.649	29.617	29.687	29.801	29.753
Means..	29.7917	29.9564	30.1276	30.1895	30.2636	30.4647	30.4093	29.8311	29.6623	29.6693	29.7622	29.7317

Date.	DECEMBER, 1872.											
Time.	7	8	9	10	11	12	13	14	15	16	17	18
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	29.760	29.549	29.682	29.880	29.877	29.266	29.307	29.657	29.859	29.824	29.958	29.923
1	29.774	29.544	29.697	29.887	29.868	29.236	29.307	29.680	29.872	29.822	29.964	29.922
2	29.775	29.517	29.707	29.896	29.855	29.254	29.306	29.674	29.867	29.811	29.959	29.924
3	29.785	29.525	29.712	29.898	29.860	29.264	29.325	29.684	29.860	29.816	29.957	29.942
4	29.802	29.534	29.734	29.895	29.847	29.299	29.340	29.713	29.872	29.812	29.942	29.942
5	29.804	29.553	29.737	29.905	29.834	29.328	29.353	29.726	29.873	29.828	29.946	29.932
6	29.803	29.527	29.751	29.902	29.817	29.325	29.377	29.763	29.879	29.829	29.938	29.922
7	29.811	29.550	29.758	29.906	29.810	29.320	29.401	29.805	29.871	29.832	29.944	29.924
8	29.790	29.557	29.774	29.901	29.786	29.356	29.403	29.816	29.855	29.857	29.906	29.930
9	29.793	29.570	29.785	29.884	29.759	29.365	29.432	29.820	29.856	29.868	29.945	29.926
10	29.801	29.589	29.793	29.873	29.749	29.342	29.454	29.840	29.853	29.857	29.961	29.928
11	29.802	29.575	29.808	29.893	29.726	29.345	29.465	29.850	29.848	29.855	29.964	29.931
Noon.	29.800	29.570	29.807	29.876	29.696	29.358	29.485	29.859	29.841	29.870	29.956	29.942
1^h	29.796	29.590	29.806	29.875	29.647	29.364	29.488	29.863	29.839	29.882	29.940	29.921
2	29.791	29.604	29.825	29.878	29.662	29.355	29.520	29.848	29.850	29.894	29.923	29.923
3	29.778	29.597	29.832	29.892	29.640	29.354	29.536	29.850	29.853	29.899	29.942	29.942
4	29.768	29.596	29.855	29.892	29.601	29.352	29.559	29.839	29.875	29.912	29.937	29.947
5	29.740	29.621	29.855	29.896	29.562	29.360	29.570	29.849	29.834	29.914	29.939	29.963
6	29.726	29.650	29.861	29.897	29.515	29.346	29.589	29.841	29.839	29.931	29.930	29.965
7	29.696	29.654	29.872	29.889	29.474	29.338	29.606	29.842	29.846	29.942	29.935	29.962
8	29.655	29.667	29.873	29.889	29.417	29.323	29.590	29.843	29.838	29.947	29.931	29.996
9	29.619	29.668	29.871	29.881	29.356	29.325	29.622	29.850	29.827	29.944	29.942	29.993
10	29.619	29.675	29.881	29.883	29.304	29.306	29.626	29.858	29.830	29.953	29.948	30.005
11	29.594	29.683	29.886	29.877	29.284	29.304	29.628	29.858	29.827	29.944	29.928	30.006
Means..	29.7530	29.5902	29.7984	29.8894	29.6644	29.3244	29.4704	29.8012	29.8527	29.8772	29.9431	29.9463

Date.	DECEMBER, 1872.												
Time.	19	20	21	22	23	24	25	26	27	28	29	30	31
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	30.011	29.997	30.437	30.369	30.377	30.353	29.952	30.025	29.599	29.685	29.688	29.501	29.515
1	30.012	30.110	30.462	30.338	30.378	30.312	29.944	30.054	29.606	29.683	29.697	29.517	29.531
2	30.018	30.126	30.465	30.352	30.382	30.327	29.914	30.070	29.598	29.679	29.702	29.489	29.546
3	30.022	30.140	30.471	30.376	30.393	30.339	29.909	30.070	29.618	29.682	29.709	29.482	29.552
4	30.029	30.162	30.485	30.372	30.392	30.325	29.880	30.073	29.625	29.683	29.720	29.471	29.551
5	30.022	30.203	30.486	30.375	30.401	30.317	29.903	30.050	29.643	29.679	29.712	29.468	29.564
6	29.994	30.222	30.472	30.380	30.409	30.317	29.880	30.042	29.670	29.680	29.720	29.458	29.558
7	29.993	30.222	30.470	30.378	30.406	30.299	29.891	29.999	29.665	29.675	29.729	29.451	29.563
8	30.002	30.249	30.460	30.373	30.406	30.301	29.901	29.999	29.721	29.679	29.728	29.450	29.569
9	30.004	30.261	30.478	30.374	30.411	30.299	29.919	29.954	29.717	29.674	29.704	29.455	29.559
10	30.002	30.271	30.481	30.372	30.406	30.279	29.934	29.912	29.732	29.688	29.696	29.446	29.555
11	29.997	30.274	30.466	30.348	30.417	30.261	29.861	29.874	29.740	29.664	29.683	29.457	29.557
Noon.	29.999	30.283	30.454	30.342	30.370	30.246	29.873	29.856	29.741	29.673	29.653	29.462	29.561
1^h	29.991	30.304	30.457	30.378	30.382	30.240	29.857	29.834	29.737	29.675	29.661	29.469	29.572
2	29.992	30.325	30.431	30.368	30.415	30.228	29.862	29.820	29.753	29.678	29.644	29.469	29.577
3	30.025	30.347	30.439	30.359	30.422	30.228	29.876	29.814	29.741	29.690	29.631	29.471	29.585
4	30.036	30.350	30.446	30.379	30.432	30.186	29.866	29.797	29.740	29.685	29.585	29.467	29.597
5	30.043	30.380	30.450	30.378	30.439	30.177	29.884	29.757	29.748	29.672	29.587	29.474	29.609
6	30.044	30.374	30.447	30.379	30.441	30.144	29.920	29.722	29.746	29.675	29.569	29.475	29.593
7	30.053	30.380	30.432	30.371	30.431	30.013	29.928	29.698	29.748	29.678	29.553	29.497	29.608
8	30.064	30.395	30.428	30.377	30.420	30.078	29.937	29.673	29.732	29.677	29.548	29.503	29.608
9	30.072	30.413	30.390	30.362	30.415	30.048	29.992	29.652	29.716	29.676	29.535	29.501	29.627
10	30.072	30.410	30.382	30.363	30.409	30.038	29.988	29.632	29.699	29.680	29.521	29.499	29.641
11	30.091	30.428	30.371	30.362	30.380	29.977	30.003	29.612	29.684	29.681	29.480	29.512	29.646
Means..	30.0245	30.3178	30.4483	30.3677	30.4056	30.2221	29.9114	29.8745	29.6966	29.6788	29.6148	29.4770	29.5810

Date.	JANUARY, 1873.											
Time.	1	2	3	4	5	6	7	8	9	10	11	12
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	29.633	29.651	29.573	29.706	29.537	29.727	29.584	29.713	29.837	30.060	30.044	29.815
1	29.651	29.655	29.539	29.716	29.539	29.728	29.589	29.729	29.888	30.052	30.049	29.816
2	29.659	29.660	29.581	29.701	29.656	29.738	29.596	29.734	29.858	30.067	30.025	29.804
3	29.664	29.661	29.583	29.693	29.646	29.737	29.597	29.738	29.860	30.053	30.034	29.792
4	29.669	29.666	29.583	29.701	29.649	29.743	29.597	29.732	29.870	30.050	30.024	29.781
5	29.680	29.663	29.605	29.696	29.656	29.745	29.604	29.746	29.874	30.048	30.020	29.782
6	29.686	29.660	29.601	29.698	29.674	29.730	29.611	29.744	29.874	30.054	29.992	29.773
7	29.682	29.653	29.599	29.707	29.665	29.740	29.613	29.753	29.882	30.043	29.992	29.765
8	29.676	29.644	29.610	29.694	29.655	29.716	29.616	29.754	29.882	30.061	29.979	29.740
9	29.682	29.647	29.625	29.681	29.673	29.721	29.614	29.761	29.882	30.045	29.972	29.745
10	29.683	29.640	29.610	29.662	29.695	29.709	29.619	29.755	29.882	30.052	29.954	29.732
11	29.677	29.627	29.630	29.667	29.700	29.694	29.616	29.753	29.881	30.038	29.951	29.726
Noon.	29.676	29.631	29.648	29.653	29.726	29.670	29.641	29.765	30.041	30.054	29.939	29.708
1^h	29.688	29.643	29.666	29.675	29.730	29.658	29.645	29.766	30.056	30.041	29.934	29.681
2	29.682	29.621	29.663	29.639	29.729	29.649	29.651	29.779	30.059	30.044	29.917	29.678
3	29.686	29.623	29.666	29.659	29.754	29.648	29.658	29.810	30.058	30.037	29.906	29.674
4	29.679	29.621	29.680	29.664	29.750	29.640	29.668	29.794	30.067	30.041	29.914	29.663
5	29.659	29.615	29.688	29.661	29.751	29.629	29.679	29.809	30.083	30.029	29.880	29.654
6	29.667	29.609	29.692	29.661	29.749	29.606	29.677	29.820	30.072	30.031	29.878	29.638
7	29.661	29.602	29.692	29.659	29.746	29.600	29.689	29.824	30.071	30.060	29.868	29.624
8	29.657	29.592	29.690	29.653	29.735	29.590	29.707	29.835	30.067	30.050	29.845	29.619
9	29.657	29.586	29.689	29.651	29.742	29.583	29.698	29.829	30.052	30.048	29.842	29.611
10	29.653	93.582	29.689	29.650	29.733	29.583	29.703	29.828	30.065	30.039	29.832	29.600
11	29.654	29.581	29.682	29.652	29.733	29.591	29.706	29.829	30.055	30.036	29.819	29.589
Means..	29.6692	29.6305	29.6368	29.6749	29.6926	29.6699	29.6408	29.7750	29.9673	30.0472	29.9421	29.7838

Date.	JANUARY, 1873.											
Time.	13	14	15	16	17	18	19	20	21	22	23	24
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	29.580	29.560	29.276	29.432	29.537	29.666	29.686	30.037	29.857	29,731	29.824	29.837
1	29.581	29.574	29.253	29.444	29.542	29.559	29.704	30.036	29.860	29.730	29.830	29.840
2	29.554	29.570	29.236	29.453	29.558	29.558	29.706	30.044	29.849	29.720	29.840	29.842
3	29.552	29.573	29.214	29.479	29.566	29.524	29.714	30.046	29.842	29.743	29.848	29.842
4	29.549	29.582	29.195	29.491	29.585	29.497	29.718	30.049	29.843	29.744	29.860	29.841
5	29.545	29.593	29.167	29.503	29.595	29.465	29.716	30.050	29.835	29.751	29.869	29.838
6	29.536	29.598	29.157	29.522	29.607	29.423	29.720	30.035	29.844	29.753	29.867	29.832
7	29.531	29.600	29.131	29.522	29.600	29.341	29.725	30.016	29.834	29.766	29.872	29.830
8	29.536	29.584	29.134	29.503	29.615	29.321	29.746	29.992	29.817	29.763	29.877	29.823
9	29.527	29.573	29.138	29.501	29.612	29.261	29.779	29.967	29.807	29.770	29.877	29.801
10	29.520	29.569	29.124	29.499	29.618	29.256	29.812	29.937	29.792	29.775	29.880	29.793
11	29.515	29.557	29.128	29.481	29.621	29.250	29.897	29.930	29.790	29.780	29.874	29.778
Noon.	29.514	29.550	29.121	29.490	29.608	29.278	29.857	29.912	29.779	29.775	29.873	29.765
1^h	29.514	29.520	29.131	29.481	29.609	29.269	29.886	29.914	29.777	29.782	29.869	29.757
2	29.519	29.514	29.136	29.485	29.607	29.365	29.915	29.917	29.768	29.789	29.866	29.746
3	29.525	29.493	29.159	29.497	29.603	29.414	29.923	29.902	29.768	29.799	29.873	29.734
4	29.533	29.464	29.183	29.507	29.614	29.473	29.950	29.917	29.768	29.803	29.875	29.725
5	29.532	29.454	29.198	29.515	29.617	29.504	29.965	29.930	29.771	29.807	29.869	29.717
6	29.539	29.425	29.231	29.506	29.610	29.546	29.975	29.909	29.761	29.820	29.864	29.709
7	29.543	29.408	29.270	29.517	29.590	29.578	29.981	29.905	29.754	29.824	29.860	29.698
8	29.538	29.389	29.300	29.515	29.577	29.602	29.978	29.901	29.746	29.825	29.858	29.688
9	29.546	29.349	29.325	29.533	29.582	29.631	29.990	29.892	29.733	29.828	29.864	29.674
10	29.546	29.337	29.361	29.531	29.575	29.660	30.002	29.889	29.722	29.830	29.851	29.665
11	29.550	29.309	29.385	29.535	29.584	29.670	30.026	29.869	29.720	29.826	29.844	29.663
Means..	29.5552	29.5050	29.2061	29.4976	29.5930	29.4588	29.8713	29.9582	29.7932	29.7773	29.8618	29.7683

Date.	JANUARY, 1873.							FEBRUARY, 1873.			
Time.	25	26	27	28	29	30	31	1	2	3	4
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	29.660	29.720	29.663	29.816	29.494	29.462	29.541	29.708	29.310	29.376	29.628
1	29.647	29.698	29.650	29.775	29.479	29.437	29.573	29.693	29.304	29.389	29.662
2	29.640	29.704	29.669	29.766	29.448	29.400	29.526	29.669	29.288	29.411	29.675
3	29.636	29.710	29.662	29.761	29.449	29.375	29.665	29.639	29.277	29.453	29.656
4	29.634	29.726	29.677	29.776	29.454	29.345	29.695	29.614	29.263	29.447	29.664
5	29.634	29.739	29.682	29.774	29.447	29.313	29.620	29.599	29.272	29.465	29.641
6	29.624	29.747	29.679	29.777	29.444	29.290	29.751	29.568	29.251	29.469	29.608
7	29.628	29.745	29.674	29.775	29.427	29.270	29.777	29.540	29.251	29.482	29.584
8	29.631	29.746	29.668	29.767	29.430	29.243	29.787	29.525	29.244	29.496	29.569
9	29.625	29.734	29.679	29.772	29.425	29.172	29.811	29.498	29.243	29.493	29.538
10	29.620	29.743	29.681	29.763	29.436	29.197	29.817	29.485	29.229	29.496	29.474
11	29.620	29.740	29.686	29.745	29.453	29.173	29.820	29.440	29.228	29.504	29.427
Noon.	29.625	29.734	29.691	29.730	29.469	29.143	29.817	29.420	29.227	29.509	29.370
1^h	29.619	29.729	29.707	29.722	29.481	29.136	29.820	29.404	29.224	29.507	29.332
2	29.631	29.718	29.721	29.696	29.503	29.145	29.814	29.415	29.242	29.519	29.277
3	29.647	29.716	29.727	29.673	29.526	29.158	29.830	29.414	29.272	29.520	29.249
4	29.656	29.716	29.744	29.660	29.515	29.212	29.824	29.400	29.313	29.508	29.201
5	29.660	29.707	29.732	29.646	29.458	29.263	29.827	29.400	29.324	29.510	29.125
6	29.669	29.698	29.750	29.634	29.573	29.305	29.844	29.392	29.337	29.503	29.112
7	29.669	29.687	29.754	29.620	29.574	29.353	29.804	29.392	29.340	29.492	29.074
8	29.670	29.675	29.758	29.594	29.557	29.395	29.790	29.374	29.352	29.478	29.035
9	29.673	29.656	29.758	29.566	29.548	29.468	29.756	29.395	29.364	29.435	29.015
10	29.676	29.642	29.766	29.538	29.530	29.482	29.733	29.331	29.370	29.434	29.002
11	29.686	29.639	29.767	29.521	29.606	29.507	29.727	29.341	29.375	29.483	28.993
Means..	29.6450	29.6862	29.7060	29.7028	29.4886	29.3018	29.7475	29.4865	29.2875	29.4741	29.3717

Date.	FEBRUARY, 1873.											
Time.	5	6	7	8	9	10	11	12	13	14	15	16
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	28.985	29.380	29.411	29.654	30.238	29.789	30.080	30.175	29.991	29.928	29.401	29.353
1	29.023	29.333	29.432	29.656	30.263	29.766	30.146	30.124	30.013	29.905	29.395	29.364
2	29.048	29.295	29.460	29.650	30.270	29.753	30.185	30.097	30.031	29.880	29.406	29.392
3	29.072	29.258	29.485	29.651	30.286	29.728	30.227	30.080	30.061	29.850	29.408	29.414
4	29.097	29.218	29.526	29.655	30.295	29.714	30.219	30.026	30.077	29.812	29.406	29.430
5	29.045	29.177	29.559	29.678	30.295	29.706	30.330	30.011	30.081	29.790	29.409	29.444
6	29.124	29.125	29.587	29.694	30.282	29.692	30.377	30.003	30.079	29.759	29.402	29.458
7	29.293	29.079	29.600	29.704	30.260	29.671	30.376	29.978	30.098	29.725	29.385	29.459
8	29.350	29.053	29.620	29.721	30.252	29.678	30.388	29.954	30.111	29.694	29.374	29.468
9	29.397	29.027	29.644	29.751	30.234	29.673	30.384	29.940	30.121	29.661	29.376	29.497
10	29.454	29.010	29.655	29.746	30.215	29.660	30.403	29.932	30.136	29.616	29.259	29.509
11	29.479	28.992	29.678	29.826	30.206	29.688	30.402	29.926	30.128	29.592	29.241	29.521
Noon.	29.489	28.985	29.681	29.842	30.179	29.700	30.410	29.923	30.123	29.572	29.323	29.532
1^h	29.510	28.994	29.690	29.890	30.163	29.717	30.412	29.914	30.130	29.546	29.316	29.545
2	29.422	29.017	29.685	29.935	30.139	29.717	30.391	29.917	30.111	29.526	29.308	29.554
3	29.541	29.056	29.689	29.975	30.103	29.733	30.396	30.114	30.097	29.498	29.306	29.563
4	29.560	29.113	29.686	30.033	30.082	29.772	30.395	29.941	30.096	29.494	29.318	29.582
5	29.528	29.146	29.686	30.051	30.047	29.809	30.378	29.995	30.084	29.479	29.315	29.584
6	29.516	29.190	29.683	30.074	30.021	29.821	30.367	29.945	30.077	29.460	29.310	29.601
7	29.500	29.117	29.662	30.209	29.980	29.864	30.348	29.945	30.058	29.444	29.310	29.619
8	29.481	29.262	29.667	30.144	29.934	29.906	30.319	29.948	30.025	29.431	29.311	29.642
9	29.468	29.315	29.670	30.163	29.918	29.954	30.289	29.957	30.103	29.416	29.313	29.644
10	29.443	29.346	29.670	30.197	29.968	30.001	30.253	29.965	29.979	29.415	29.333	29.649
11	29.416	29.380	29.663	30.231	29.943	30.059	30.220	29.985	29.961	29.417	29.346	29.669
Means..	29.3434	29.1612	29.6162	29.8804	30.1489	29.7738	30.3196	29.9915	30.0739	29.6213	29.3445	29.5205

Date.	FEBRUARY, 1873.											
Time.	17	18	19	20	21	22	23	24	25	26	27	28
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	29.705	30.168	30.365	30.684	30.936	30.748	30.025	30.063	29.930	29.861	30.063	30.143
1	29.740	30.167	30.371	30.694	30.938	30.730	29.999	30.096	29.982	29.866	30.070	30.109
2	29.758	30.158	30.398	30.714	30.940	30.709	29.975	30.122	29.962	29.882	30.087	30.091
3	29.805	30.159	30.403	30.720	30.941	30.672	29.968	30.134	29.951	29.888	30.105	30.068
4	29.833	30.173	30.417	30.735	30.943	30.681	29.968	30.147	29.954	29.889	30.128	30.045
5	29.862	30.172	30.425	30.754	30.952	30.646	29.947	30.154	29.942	29.899	30.144	30.014
6	29.885	30.185	30.435	30.742	30.940	30.615	29.941	30.158	29.930	29.908	30.160	30.004
7	29.902	30.187	30.443	30.763	30.943	30.587	29.934	30.164	29.921	29.912	30.169	29.963
8	29.917	30.199	30.447	30.776	30.944	30.552	29.915	30.167	29.919	29.911	30.157	29.931
9	29.944	30.216	30.464	30.786	30.932	30.519	29.899	30.155	29.916	29.921	30.168	29.901
10	29.992	30.214	30.483	30.804	30.929	30.496	29.887	30.144	29.902	29.925	30.175	29.876
11	30.001	30.237	30.472	30.804	30.912	30.464	29.865	30.140	29.901	29.937	30.193	29.825
Noon.	30.035	30.255	30.512	30.818	30.902	30.426	29.854	30.148	29.892	29.949	30.184	29.804
1^h	30.062	30.262	30.524	30.832	30.895	30.399	29.854	30.143	29.878	29.940	30.210	29.779
2	30.084	30.284	30.547	30.847	30.876	30.364	29.862	30.130	29.879	29.948	30.201	29.756
3	30.109	30.301	30.574	30.864	30.870	30.338	29.881	30.112	29.874	29.960	30.201	29.765
4	30.132	30.318	30.600	30.889	30.883	30.314	29.903	30.108	29.876	29.972	30.210	29.710
5	30.151	30.312	30.611	30.905	30.873	30.283	29.923	30.089	29.869	29.986	30.218	29.722
6	30.162	30.337	30.628	30.908	30.849	30.261	29.940	30.086	29.848	30.002	30.216	29.729
7	30.163	30.313	30.637	30.911	30.831	30.207	29.965	30.073	29.863	30.008	30.236	29.709
8	30.167	30.334	30.639	30.918	30.831	30.174	29.979	30.057	29.855	30.010	30.209	29.719
9	30.173	30.345	30.657	30.933	30.815	30.147	30.007	30.037	29.864	30.024	30.199	29.718
10	30.180	30.352	30.669	30.941	30.768	30.112	30.038	30.031	29.861	30.041	30.178	29.722
11	30.173	30.355	30.673	30.943	30.779	30.171	30.060	30.009	29.873	30.059	30.179	29.744
Means..	30.0015	30.2501	30.5206	30.8202	30.8926	30.4423	29.9412	30.1111	29.9018	29.9874	30.1692	29.8686

Date.	MARCH, 1873.											
Time.	1	2	3	4	5	6	7	8	9	10	11	12
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0h	29.752	29.835	29.878	29.625	29.640	29.034	29.026	29.291	29.523	29.995	30.014	30.002
1	29.767	29.831	29.863	29.616	29.527	28.946	29.003	29.263	29.491	29.991	30.015	30.006
2	29.780	29.854	29.855	29.596	29.523	29.056	28.986	29.259	29.506	29.986	30.007	30.029
3	29.767	29.845	29.862	29.503	29.522	29.076	29.006	29.257	29.481	29.975	29.993	30.043
4	29.773	29.852	29.860	29.600	29.511	29.085	29.012	29.294	29.478	29.977	30.000	30.063
5	29.776	29.859	29.863	29.609	29.503	29.103	29.022	29.306	29.489	29.968	30.010	30.064
6	29.757	29.866	29.861	29.618	29.486	29.116	29.053	29.339	29.507	29.962	29.995	30.063
7	29.755	29.871	29.844	29.616	29.469	29.109	29.066	29.359	29.585	29.953	30.013	30.046
8	29.759	29.877	29.813	29.629	29.434	29.119	29.075	29.373	29.611	29.939	30.010	30.045
9	29.754	29.879	29.804	29.627	29.418	29.137	29.086	29.418	29.646	29.942	30.001	30.043
10	29.759	29.880	29.797	29.622	29.386	29.126	29.126	29.442	29.671	29.934	30.001	30.038
11	29.764	29.875	29.782	29.626	29.338	29.110	29.154	29.461	29.704	29.945	29.982	30.035
Noon.	29.761	29.883	29.777	29.619	29.267	29.125	29.160	29.481	29.761	29.952	29.970	30.033
1h	29.750	29.880	29.754	29.602	29.231	29.134	29.185	29.496	29.808	29.961	29.971	30.002
2	29.754	29.887	29.740	29.616	29.185	29.146	29.205	29.505	29.877	29.960	29.958	30.015
3	29.764	29.877	29.737	29.613	29.147	29.156	29.225	29.518	29.904	29.961	29.954	30.015
4	29.783	29.878	29.738	29.620	29.129	29.161	29.250	29.493	29.944	29.975	29.948	30.015
5	29.791	29.899	29.722	29.625	29.090	29.155	29.275	29.514	29.956	29.996	29.937	30.027
6	29.796	29.887	29.707	29.616	29.080	29.139	29.294	29.505	29.986	30.013	29.925	30.025
7	29.797	29.892	29.695	29.601	29.058	29.131	29.327	29.511	30.007	30.029	29.927	30.006
8	29.800	29.887	29.681	29.595	29.057	29.083	29.336	29.520	30.020	30.026	29.940	30.011
9	29.803	29.896	29.638	29.590	29.037	29.067	29.336	29.518	30.022	30.038	29.952	30.018
10	29.821	29.890	29.657	29.567	29.043	29.042	29.318	29.541	30.017	30.039	29.966	30.025
11	29.826	29.873	29.645	29.555	29.045	29.023	29.305	29.536	30.007	30.038	29.991	30.022
Means..	29.7754	29.8730	29.7239	29.6086	29.2969	29.1408	29.2055	29.4221	29.7500	29.9815	29.9785	30.0329

Date.	MARCH, 1873.											
Time.	13	14	15	16	17	18	19	20	21	22	23	24
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0h	30.027	29.857	29.453	29.694	30.064	30.196	30.090	30.345	30.180	30.118	30.265	29.880
1	30.028	29.833	29.458	29.690	30.085	30.145	30.091	30.350	30.163	30.139	30.257	29.873
2	30.043	29.805	29.467	29.707	30.096	30.139	30.140	30.363	30.167	30.154	30.258	29.867
3	30.047	29.747	29.481	29.703	30.130	30.132	30.168	30.375	30.157	30.178	30.236	29.858
4	30.051	29.690	29.493	29.723	30.166	30.133	30.194	30.373	30.148	30.183	30.239	29.866
5	30.053	29.679	29.504	29.721	30.156	30.124	30.196	30.369	30.142	30.210	30.226	29.849
6	30.060	29.631	29.513	29.736	30.176	30.125	30.187	30.383	30.135	30.218	30.209	29.835
7	30.065	29.590	29.515	29.731	30.191	30.101	30.224	30.394	30.111	30.222	30.201	29.792
8	30.068	29.561	29.522	29.746	30.182	30.102	30.250	30.400	30.098	30.235	30.191	29.774
9	30.086	29.526	29.546	29.749	30.205	30.084	30.260	30.391	30.072	30.235	30.173	29.740
10	30.104	29.501	29.549	29.779	30.218	30.077	30.266	30.381	30.074	30.256	30.151	29.698
11	30.111	29.462	29.562	29.790	30.225	30.034	30.276	30.374	30.053	30.256	30.132	29.688
Noon.	30.126	29.444	29.579	29.809	30.229	30.022	30.275	30.379	30.043	30.248	30.096	29.660
1h	30.123	29.434	29.589	29.831	30.225	30.030	30.279	30.360	30.027	30.267	30.092	29.646
2	30.126	29.402	29.604	29.850	30.225	30.018	30.295	30.360	30.003	30.264	30.075	29.635
3	30.108	29.407	29.618	29.880	30.219	30.003	30.293	30.345	30.037	30.265	30.058	29.637
4	30.103	29.393	29.636	29.899	30.234	30.012	30.302	30.336	30.031	30.273	30.049	29.629
5	30.078	29.395	29.645	29.925	30.235	30.003	30.317	30.326	30.040	30.293	30.029	29.628
6	30.071	29.387	29.654	29.949	30.232	29.998	30.330	30.301	30.052	30.291	30.014	29.636
7	30.045	29.383	29.663	29.971	30.224	30.003	30.345	30.272	30.051	30.294	29.994	29.631
8	30.075	29.407	29.664	29.990	30.226	30.005	30.337	30.251	30.056	30.289	29.979	29.634
9	29.980	29.413	29.670	30.010	30.211	30.022	30.346	30.233	30.056	30.295	29.977	29.627
10	29.930	29.442	29.678	30.030	30.197	30.049	30.363	30.214	30.080	30.288	29.955	29.616
11	29.910	29.447	29.690	30.048	30.192	30.081	30.352	30.195	30.096	30.291	29.938	29.615
Means..	30.0591	29.5348	29.6980	29.8317	30.1893	30.0683	30.2577	30.3363	30.0863	30.2401	30.1154	29.7214

Date.	MARCH, 1873.							APRIL, 1873.			
Time.	25	26	27	28	29	30	31	1	2	3	4
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0h	29.595	29.776	29.810	29.590	29.564	29.602	29.919	30.120	30.036	30.107	30.195
1	29.589	29.785	29.796	29.588	29.500	29.601	29.931	30.116	30.045	30.096	30.210
2	29.588	29.811	29.784	29.573	29.435	29.611	29.955	30.106	30.061	30.096	30.223
3	29.588	29.823	29.772	29.580	29.425	29.623	29.973	30.097	30.076	30.101	30.234
4	29.580	29.859	29.758	29.587	29.414	29.642	29.994	30.100	30.079	30.108	30.251
5	29.585	29.864	29.737	29.596	29.403	29.664	30.012	30.093	30.085	30.121	30.254
6	29.597	29.873	29.707	29.589	29.392	29.682	29.927	30.098	30.112	30.122	30.259
7	29.590	29.885	29.690	29.593	29.396	29.707	29.943	30.075	30.127	30.130	30.263
8	29.591	29.890	29.672	29.584	29.394	29.721	30.063	30.066	30.124	30.129	30.238
9	29.595	29.900	29.643	29.574	29.392	29.730	30.065	30.063	30.121	30.130	30.254
10	29.606	29.892	29.620	29.548	29.405	29.739	30.083	30.056	30.124	30.136	30.239
11	29.612	29.899	29.589	29.548	29.401	29.752	30.089	30.046	30.125	30.144	30.230
Noon.	29.622	29.895	29.587	29.544	29.415	29.761	30.104	30.043	30.132	30.142	30.228
1h	29.625	29.905	29.569	29.529	29.439	29.783	30.111	30.038	30.143	30.154	30.214
2	29.652	29.903	29.574	29.503	29.451	29.803	30.130	30.022	30.127	30.167	30.211
3	29.660	29.906	29.556	29.511	29.471	29.805	30.138	30.020	30.140	30.163	30.198
4	29.684	29.892	29.559	29.511	29.508	29.829	30.157	30.021	30.159	30.180	30.210
5	29.700	29.896	29.558	29.513	29.531	29.836	30.150	30.022	30.155	30.185	30.227
6	29.706	29.902	29.555	29.506	29.550	29.848	30.147	30.029	30.152	30.194	30.220
7	29.715	29.894	29.569	29.508	29.558	29.867	30.146	30.034	30.144	30.202	30.229
8	29.721	29.883	29.570	29.507	29.572	29.882	30.154	30.029	30.134	30.202	30.231
9	29.743	29.876	29.574	29.492	29.578	29.886	30.149	30.031	30.130	30.207	30.243
10	29.762	29.869	29.582	29.485	29.585	29.894	30.144	30.042	30.122	30.210	30.241
11	29.774	29.844	29.595	29.479	29.596	29.905	30.132	30.036	30.113	30.214	30.243
Means..	29.6450	29.8717	29.5803	29.5433	29.4739	29.7572	30.0673	30.0585	30.1153	30.1526	30.2310

Date.	APRIL, 1873.										
Time.	5	6	7	8	9	10	11	12	13	14	15
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0h	30.248	30.471	30.339	30.388	30.295	30.322	30.770	30.649	30.382	30.166	30.203
1	30.280	30.437	30.330	30.388	30.285	30.338	30.771	30.616	30.372	30.137	30.193
2	30.302	30.445	30.334	30.385	30.280	30.362	30.778	30.621	30.362	30.126	30.190
3	30.320	30.435	30.329	30.381	30.282	30.379	30.780	30.579	30.366	30.109	30.205
4	30.345	30.428	30.330	30.395	30.273	30.393	30.784	30.598	30.368	30.098	30.210
5	30.357	30.418	30.330	30.397	30.275	30.427	30.799	30.589	30.365	30.081	30.204
6	30.389	30.401	30.345	30.397	30.258	30.446	30.816	30.589	30.356	30.070	30.199
7	30.411	30.394	30.331	30.400	30.255	30.456	30.827	30.563	30.350	30.052	30.203
8	30.417	30.377	30.325	30.390	30.227	30.466	30.800	30.542	30.342	30.053	30.196
9	30.426	30.363	30.320	30.400	30.222	30.484	30.793	30.524	30.339	30.061	30.195
10	30.440	30.359	30.333	30.395	30.238	30.527	30.787	30.507	30.320	30.098	30.197
11	30.456	30.366	30.338	30.393	30.218	30.544	30.789	30.498	30.315	30.105	30.177
Noon.	30.468	30.358	30.334	30.383	30.223	30.584	30.788	30.492	30.289	30.120	30.165
1h	30.487	30.360	30.340	30.377	30.219	30.576	30.763	30.474	30.282	30.114	30.163
2	30.500	30.359	30.336	30.372	30.214	30.617	30.752	30.458	30.271	30.117	30.159
3	30.498	30.360	30.353	30.367	30.216	30.647	30.754	30.443	30.287	30.140	30.142
4	30.502	30.363	30.349	30.364	30.214	30.648	30.748	30.422	30.277	30.164	30.143
5	30.508	30.362	30.350	30.360	30.224	30.652	30.729	30.414	30.276	30.114	30.136
6	30.507	30.366	30.327	30.357	30.241	30.676	30.722	30.409	30.267	30.188	30.115
7	30.503	30.359	30.354	30.351	30.248	30.695	30.712	30.440	30.253	30.170	30.096
8	30.496	30.352	30.362	30.342	30.240	30.708	30.693	30.399	30.222	30.182	30.081
9	30.495	30.341	30.365	30.329	30.267	30.729	30.680	30.390	30.207	30.207	30.082
10	30.491	30.342	30.372	30.322	30.286	30.749	30.683	30.385	30.187	30.200	30.062
11	30.480	30.341	30.373	30.303	30.298	30.764	30.655	30.381	30.175	30.212	30.046
Means..	30.4303	30.3819	30.3416	30.3723	30.2499	30.5495	30.7572	30.4993	30.3054	30.1285	30.1568

Date.	APRIL, 1873.											
Time.	16	17	18	19	20	21	22	23	24	25	26	27
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	30.040	29.895	30.041	30.106	30.512	30.721	30.640	30.564	30.377	30.033	30.174	29.674
1	30.023	29.909	30.048	30.112	30.531	30.680	30.649	30.557	30.348	30.039	30.162	29.680
2	30.011	29.818	30.067	30.134	30.551	30.668	30.652	30.571	30.347	30.053	30.154	29.693
3	29.988	29.823	30.083	30.147	30.599	30.667	30.658	30.566	30.339	30.051	30.115	29.714
4	29.968	29.826	30.090	30.162	30.615	30.655	30.651	30.562	30.312	30.061	30.090	29.734
5	29.968	29.836	30.093	30.187	30.637	30.655	30.659	30.567	30.295	30.070	30.079	29.756
6	29.956	29.949	30.103	30.195	30.664	30.641	30.642	30.558	30.279	30.069	30.070	29.765
7	29.940	29.945	30.113	30.210	30.688	30.640	30.644	30.547	30.259	30.079	30.060	29.769
8	29.937	29.955	30.112	30.243	30.709	30.626	30.642	30.559	30.231	30.088	30.048	29.777
9	29.924	29.948	30.113	30.254	30.720	30.609	30.635	30.547	30.217	30.093	30.032	29.776
10	29.913	29.944	30.115	30.267	30.725	30.605	30.631	30.531	30.198	30.107	30.081	29.785
11	29.899	29.948	30.111	30.278	30.740	30.601	30.633	30.506	30.175	30.113	30.049	29.793
Noon.	29.889	29.943	30.096	30.279	30.739	30.598	30.641	30.503	30.165	30.117	29.916	29.796
1^h	29.856	29.946	30.097	30.282	30.753	30.587	30.615	30.494	30.142	30.127	29.875	29.806
2	29.876	29.945	30.100	30.301	30.757	30.593	30.614	30.492	30.136	30.123	29.831	29.811
3	29.880	29.957	30.099	30.312	30.761	30.601	30.613	30.488	30.135	30.129	29.792	29.808
4	29.870	29.970	30.088	30.334	30.765	30.614	30.611	30.480	30.126	30.131	29.771	29.808
5	29.865	29.960	30.091	30.373	30.762	30.618	30.604	30.476	30.107	30.135	29.744	29.797
6	29.868	29.969	30.091	30.369	30.753	30.591	30.608	30.473	30.086	30.144	29.727	29.790
7	29.867	29.975	30.094	30.396	30.745	30.600	30.606	30.458	30.103	30.149	29.700	29.780
8	29.852	29.995	30.101	30.414	30.742	30.632	30.606	30.440	30.080	30.154	29.669	29.766
9	29.886	30.005	30.104	30.431	30.733	30.638	30.575	30.412	30.057	30.160	29.655	29.743
10	29.881	30.017	30.105	30.463	30.723	30.639	30.585	30.409	30.064	30.182	29.645	29.798
11	29.890	30.025	30.102	30.489	30.715	30.639	30.582	30.391	30.040	30.179	29.686	29.749
Means..	29.9186	29.9376	30.0940	30.2808	30.6975	30.6299	30.6248	30.5063	30.1924	30.1078	29.9219	29.7236

Date.	APRIL, 1873.			MAY, 1873.								
Time.	28	29	30	1	2	3	4	5	6	7	8	9
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	29.737	29.572	29.778	29.887	29.827	29.800	29.713	29.848	29.966	30.271	30.189	29.797
1	29.721	29.565	29.790	29.896	29.826	29.788	29.721	29.861	29.980	30.284	30.192	29.773
2	29.718	29.563	29.798	29.898	29.836	29.769	29.728	29.867	29.997	30.304	30.186	29.748
3	29.712	29.554	29.809	29.890	29.829	29.757	29.735	29.870	29.995	30.318	30.181	29.750
4	29.708	29.551	29.812	29.886	29.829	29.747	29.768	29.884	30.007	30.337	30.184	29.733
5	29.701	29.540	29.838	29.882	29.840	29.737	29.781	29.881	30.012	30.352	30.188	29.719
6	29.697	29.549	29.851	29.884	29.845	29.730	29.798	29.894	30.022	30.371	30.163	29.703
7	29.685	29.558	29.865	29.868	29.852	29.725	29.808	29.903	30.038	30.385	30.170	29.682
8	29.692	29.568	29.877	29.870	29.857	29.725	29.814	29.911	30.046	30.383	30.184	29.673
9	29.684	29.578	29.880	29.862	29.868	29.726	29.819	29.914	30.051	30.384	30.166	29.661
10	29.677	29.581	29.890	29.856	29.872	29.713	29.832	29.904	30.067	30.380	30.152	29.652
11	29.670	29.598	29.908	29.846	29.868	29.692	29.833	29.908	30.091	30.370	30.135	29.647
Noon.	29.660	29.614	29.892	29.846	29.876	29.690	29.824	29.906	30.090	30.352	30.119	29.634
1^h	29.657	29.632	29.886	29.850	29.889	29.688	29.837	29.910	30.107	30.345	30.077	29.619
2	29.648	29.657	29.908	29.849	29.887	29.682	29.843	29.907	30.131	30.328	30.058	29.603
3	29.637	29.675	29.910	29.842	29.887	29.682	29.848	29.924	30.142	30.308	30.039	29.606
4	29.659	29.689	29.906	29.846	29.887	29.668	29.847	29.924	30.155	30.295	30.016	29.649
5	29.642	29.702	29.908	29.856	29.879	29.688	29.852	29.931	30.161	30.277	29.985	29.681
6	29.633	29.713	29.905	29.831	29.882	29.691	29.846	29.930	30.188	30.272	29.962	29.714
7	29.618	29.719	29.900	29.819	29.882	29.699	29.839	29.930	30.200	30.252	29.931	29.742
8	29.609	29.728	29.898	29.824	29.869	29.705	29.838	29.934	30.209	30.226	29.907	29.772
9	29.602	29.733	29.895	29.819	29.855	29.705	29.836	29.945	30.229	30.222	29.886	29.789
10	29.589	29.735	29.895	29.824	29.845	29.715	29.840	29.945	30.244	30.213	29.861	29.815
11	29.585	29.768	29.892	29.834	29.828	29.705	29.841	29.950	30.257	30.193	29.828	29.846
Means..	29.6646	29.6309	29.8705	29.8569	29.8589	29.7136	29.8102	29.9089	30.0993	30.3193	30.0733	29.7079

Date.	MAY, 1873.										
Time.	10	11	12	13	14	15	16	17	18	19	20
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	29.853	30.255	30.410	30.459	30.389	30.463	30.429	30.581	30.170	30.005	29.973
1	29.835	30.260	30.412	30.457	30.378	30.456	30.447	30.570	30.178	29.998	29.972
2	29.874	30.266	30.418	30.456	30.375	30.463	30.433	30.567	30.175	29.995	29.969
3	29.905	30.268	30.427	30.449	30.337	30.453	30.424	30.571	30.173	29.998	29.961
4	29.948	30.269	30.428	30.454	30.403	30.451	30.421	30.568	30.152	30.000	29.985
5	30.001	30.311	30.434	30.459	30.415	30.462	30.432	30.549	30.136	30.003	29.989
6	30.028	30.321	30.440	30.445	30.424	30.460	30.457	30.534	30.133	30.003	29.998
7	30.064	30.321	30.448	30.442	30.431	30.459	30.448	30.524	30.118	30.025	29.992
8	30.101	30.335	30.450	30.438	30.443	30.434	30.473	30.512	30.105	30.014	29.980
9	30.107	30.345	30.456	30.428	30.443	30.436	30.494	30.492	30.085	30.017	29.986
10	30.114	30.354	30.453	30.429	30.454	30.441	30.517	30.474	30.066	30.004	29.974
11	30.119	30.358	30.458	30.426	30.467	30.426	30.537	30.450	30.059	30.005	29.966
Noon.	30.133	30.359	30.454	30.416	30.470	30.426	30.555	30.425	30.041	30.007	29.968
1^h	30.151	30.372	30.466	30.412	30.480	30.416	30.563	30.401	30.029	30.011	29.962
2	30.161	30.384	30.469	30.399	30.472	30.438	30.568	30.393	30.022	29.979	29.954
3	30.168	30.384	30.474	30.390	30.477	30.436	30.573	30.368	30.020	30.005	29.948
4	30.191	30.394	30.476	30.381	30.471	30.464	30.566	30.346	29.929	29.992	29.950
5	30.191	30.404	30.482	30.377	30.468	30.447	30.574	30.333	29.916	29.987	29.950
6	30.204	30.409	30.471	30.370	30.475	30.449	30.577	30.306	30.017	29.980	29.933
7	30.220	30.404	30.483	30.366	30.474	30.436	30.577	30.288	30.012	29.972	29.927
8	30.218	30.416	30.475	30.360	30.454	30.435	30.575	30.276	29.957	29.975	29.924
9	30.234	30.416	30.475	30.361	30.456	30.403	30.571	30.252	30.000	29.967	29.921
10	30.241	30.417	30.475	30.370	30.462	30.413	30.576	30.230	30.011	29.967	29.920
11	30.244	30.415	30.466	30.370	30.459	30.421	30.577	30.209	30.011	29.967	29.916
Means..	30.0960	30.3514	30.4543	30.4126	30.4399	30.4412	30.5110	30.4258	30.0631	29.9950	29.9591

Date.	MAY, 1873.										
Time.	21	22	23	24	25	26	27	28	29	30	31
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	29.895	29.765	29.747	30.011	29.974	29.970	30.124	30.068	30.009	29.722	29.775
1	29.891	29.757	29.735	30.017	29.975	29.972	30.150	30.067	29.955	29.713	29.784
2	29.886	29.757	29.760	30.016	29.977	29.990	30.128	30.065	29.953	29.705	29.801
3	29.892	29.750	29.765	30.019	29.972	29.985	30.128	30.064	29.950	29.695	29.805
4	29.886	29.745	29.779	30.021	29.976	29.962	30.131	30.062	29.943	29.690	29.718
5	29.873	29.746	29.793	30.034	29.970	29.965	30.132	30.057	29.934	29.702	29.728
6	29.878	29.749	29.807	30.034	29.971	30.005	30.130	30.058	29.932	29.688	29.774
7	29.877	29.754	29.830	30.036	29.975	30.016	30.131	30.050	29.926	29.688	29.850
8	29.863	29.739	29.825	30.028	29.969	30.022	30.120	30.042	29.924	29.682	29.855
9	29.850	29.735	29.835	30.037	29.963	30.028	30.116	30.035	29.917	29.691	29.856
10	29.848	29.730	29.840	30.027	29.960	30.035	30.111	30.023	29.906	29.691	29.854
11	29.844	29.722	29.865	30.021	29.958	30.043	30.102	30.026	29.892	29.704	29.857
Noon.	29.829	29.726	29.872	30.015	29.963	30.046	30.199	30.002	29.883	29.692	29.858
1^h	29.821	29.719	29.879	30.004	30.007	30.051	30.199	30.002	29.863	29.702	29.867
2	29.808	29.688	29.890	29.994	29.957	30.062	30.096	29.996	29.851	29.704	29.874
3	29.802	29.718	29.891	29.997	29.955	30.073	30.095	29.996	29.833	29.703	29.883
4	29.798	29.724	29.915	29.983	29.956	30.094	30.092	30.003	29.827	29.707	29.881
5	29.799	29.728	29.938	29.995	29.971	30.104	30.093	29.987	29.815	29.710	30.079
6	29.788	29.727	29.950	29.992	29.964	30.106	30.089	29.992	29.810	29.714	29.884
7	29.784	29.733	29.960	29.983	29.953	30.113	30.086	29.992	29.790	29.733	29.890
8	29.780	29.738	29.972	29.982	29.964	30.112	30.079	29.988	29.770	29.741	29.890
9	29.779	29.738	29.987	29.979	29.965	30.121	30.059	29.982	29.751	29.757	29.889
10	29.778	29.742	29.999	29.974	29.968	30.125	30.066	29.971	29.744	29.766	29.880
11	29.763	29.748	30.005	29.976	29.974	30.131	30.073	29.970	29.730	29.773	29.878
Means..	29.8338	29.7368	29.8683	30.0073	29.9711	30.0471	30.1137	30.0208	29.8712	29.7530	29.8088

The following two tables contain the daily and hourly means of atmospheric pressure derived from the preceding record:

Daily means of atmospheric pressure at Polaris House.

Date.	November, 1872.	December, 1872.	January, 1873.	February, 1873.	March, 1873.	April, 1873.	May, 1873.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
1	30.2004	30.4093	29.6692	29.4865	29.7754	30.0585	29.8569
2	30.0008	29.8311	29.6305	29.2875	29.8730	30.1153	29.8589
3	29.7899	29.6623	29.6368	29.4741	29.7239	30.1526	29.7136
4	29.7061	29.6693	29.6749	29.3717	29.6086	30.2310	29.8102
5	29.7426	29.7622	29.6926	29.3434	29.2969	30.4303	29.9089
6	29.7428	29.7317	29.6699	29.1612	29.1408	30.3819	30.0993
7	29.8363	29.7530	29.6408	29.6162	29.2055	30.3416	30.3193
8	30.0604	29.5902	29.7750	29.8804	29.4221	30.3723	30.0733
9	30.2988	29.7984	29.9673	30.1489	29.7500	30.2499	29.7079
10	30.1196	29.8894	30.0472	29.7738	29.9815	30.5495	30.0960
11	30.2553	29.6644	29.9421	30.3196	29.9785	30.7572	30.3514
12	30.0996	29.3244	29.7838	29.9915	30.0329	30.4993	30.4543
13	29.6508	29.4704	29.5552	30.0739	30.0591	30.3054	30.4126
14	30.0429	29.8012	29.5050	29.6213	29.5348	30.1285	30.4399
15	29.7997	29.8527	29.2064	29.3445	29.6980	30.1568	30.4412
16	29.7808	29.8772	29.4976	29.5205	29.8317	29.9186	30.5110
17	29.6263	29.9431	29.5930	30.0015	30.1893	29.9376	30.4258
18	29.7247	29.9463	29.4588	30.2501	30.0683	30.0940	30.0631
19	29.6530	30.2745	29.8713	30.5206	30.2577	30.2808	29.9950
20	29.6964	30.3178	29.9582	30.8202	30.3363	30.6975	29.9591
21	29.6918	30.4483	29.7932	30.8926	30.0863	30.6299	29.8338
22	29.7955	30.3677	29.7773	30.4423	30.2401	30.6248	29.7368
23	29.8829	30.4056	29.8618	29.9412	30.1154	30.5063	29.8683
24	29.8415	30.2638	29.7683	30.1111	29.7214	30.1924	30.0073
25	29.7917	29.4531	29.6450	29.9018	29.6450	30.1078	29.9711
26	29.9564	29.8745	29.6862	29.9874	29.8717	29.9219	30.0471
27	30.1276	29.6966	29.7060	30.1692	29.5803	29.7236	30.1137
28	30.1895	29.8038	29.7028	29.8686	29.5433	29.6646	30.0208
29	30.2636	29.6148	29.4886	....	29.4739	29.6309	29.8712
30	30.4647	29.4770	29.3018	....	29.7572	29.8705	29.7530
31	....	29.5810	29.7475	....	30.0673	....	29.8088
Means..	29.9172	29.8570	29.6953	29.9072	29.8000	30.2169	30.0478

Hourly means of atmospheric pressure at Polaris House.

Time.	November, 1872.	December, 1872.	January, 1873.	February, 1873.	March, 1873.	April, 1873.	May, 1873.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	29.9228	29.8367	29.6825	29.8964	29.7950	30.2185	30.0434
1	29.9223	29.8395	29.7020	29.9011	29.8170	30.2143	30.0387
2	29.9240	29.8391	29.6827	29.9038	29.8194	30.2156	30.0407
3	29.9282	29.8447	29.6890	29.9057	29.7847	30.2099	30.0392
4	29.9287	29.8505	29.6912	29.9063	29.7935	30.2186	30.0441
5	29.9312	29.8515	29.6859	29.9076	29.7954	30.2225	30.0490
6	29.9367	29.8517	29.6872	29.9065	29.7935	30.2282	30.0542
7	29.9127	29.8524	29.6825	29.9062	29.7944	30.2279	30.0560
8	29.9321	29.8619	29.7100	29.9404	29.7977	30.2252	30.0554
9	29.9301	29.8727	29.7058	29.9428	29.7975	30.2242	30.0550
10	29.9320	29.8705	29.6943	29.9324	29.7655	30.2035	30.0527
11	29.9256	29.8742	29.6918	29.8975	29.7945	30.2255	30.0515
Noon.	29.9248	29.8705	29.6991	29.8951	29.7944	30.2199	30.0508
1^h	29.9245	29.8692	29.7002	29.8954	29.7980	30.2153	30.0548
2	29.9214	29.8737	29.7023	29.8912	29.7975	30.2158	30.0467
3	29.9279	29.8706	29.7015	29.9062	29.8028	30.2142	30.0473
4	29.8988	29.8699	29.7052	29.9075	29.7800	30.2162	30.0460
5	29.8975	29.8693	29.7065	29.9076	29.8124	30.2166	30.0541
6	29.8975	29.8694	29.7112	29.9062	29.8097	30.2163	30.0472
7	29.8982	29.8601	29.7124	29.9025	29.8166	30.2133	30.0474
8	29.8999	29.8439	29.7067	29.9000	29.8148	30.2087	30.0440
9	29.8951	29.8407	29.6795	29.9049	29.8092	30.2074	30.0391
10	29.9011	29.8384	29.6856	29.9008	29.8096	30.2041	30.0451
11	29.8994	29.8411	29.6891	29.9107	29.8079	30.2122	30.0438
Means.	29.9172	29.8570	29.6953	29.9072	29.8000	30.2169	30.0478

Annual fluctuation of atmospheric pressure during the winter-half-year.

The analytical elements and expression made use of in the present discussion are as follows:

n	a_n	b_n	B_n	C_n
1	+0.24620	+0.032273	0.24836	82° 36′ 54″
2	−0.04546	+0.090699	0.10145	333 22 45
3	−0.16070	±0.00000	0.16070	270 00 00

$$B=29.9167+0.24836 \sin (x+82^{\circ}\ 36'\ 54'')+0.10145 \sin (2x+333^{\circ}\ 22'\ 45'')$$
$$+0.1607 \sin (3x+270^{\circ}\ 0'\ 0'')$$
$$x=60, 120^{\circ} \ldots\ldots$$

By means of the above expression the following values were obtained:

Months.	Observed.	Computed.	Difference, O.—C.
	Inches.	*Inches.*	*Inches.*
December	29.8591	29.8588	+0.0003
January	29.6992	29.6989	+0.0003
February	29.8799	29.8799	±0.0000
March	29.8004	29.8007	−0.0003
April	30.2109	30.2112	−0.0003
May	30.0509	30.0510	−0.0001
Mean	29.9167	29.9167	±0.0000

The maximum of atmospheric pressure during the period under consideration is found to exist in May, the minimum in January. Most likely (if we may judge by the tropical moments of the neighboring stations), the absolute maximum of the year is that of 29in.9344 during November, which month was omitted in the table above given. In regard to the minimum we feel less certain, as the minimum pressure during the year occurred at Port Foulke in September and at Van Rensselaer Harbor in the same month, while at Baffin's Bay and Port Kennedy the months of lowest pressure during the year were January and December, respectively. According to appearance January seems to exhibit the lowest mean pressure at Polaris House during the year, unless the minimum should have occurred during the time between June and November, which is not at all likely.

If we separate the pressure exerted by the vapor contained in the atmosphere from that exerted by the dry air, we get the following result:

Months.	Inches.	Months.	Inches.	Months.	Inches.
December	29.8470	February	29.8689	April	30.1933
January	29.6819	March	29.7836	May	29.9701
Mean = 29.8908 inches.					

Diurnal fluctuation of atmospheric pressure during the winter-half-year.

In treating the diurnal fluctuation of atmospheric pressure analytically the following expression was made use of:

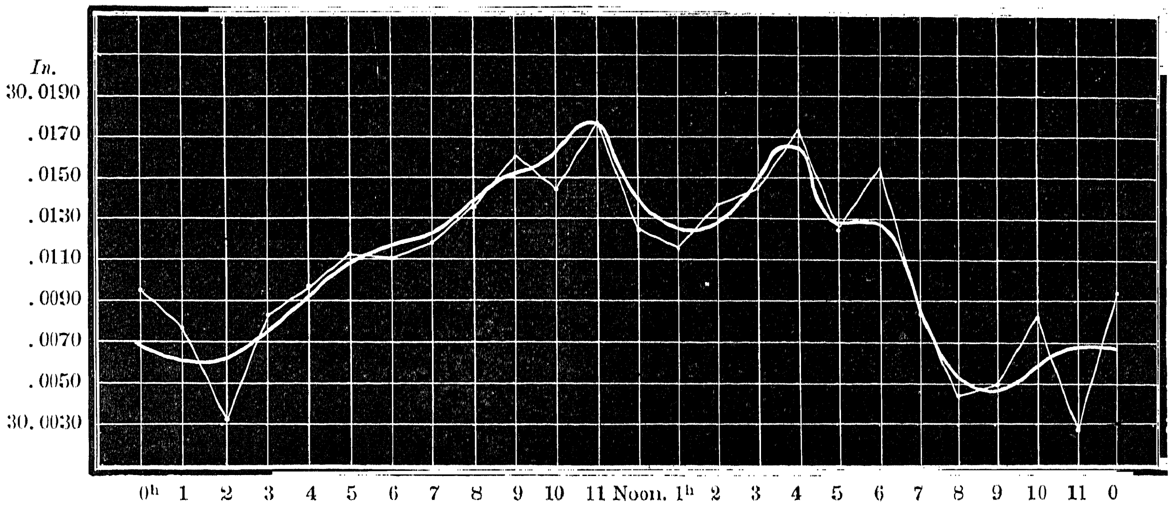
$$B=30.0109+0.00497 \sin (x+272^{\circ}\ 18'\ 20'')+0.000878 \sin (2x+297^{\circ}\ 42'\ 00'')$$
$$+0.00134 \sin (3x+59^{\circ}\ 06'\ 55'')+0.000383 \sin (4x+164^{\circ}\ 41'\ 15'')$$
$$x=15^{\circ}, 30^{\circ} \ldots\ldots$$

By means of which the following values were obtained:

Time.	Observed.	Computed.	Difference, O. — C.	Time.	Observed.	Computed.	Difference, O. — C.
	Inches.	*Inches.*	*Inches.*		*Inches.*	*Inches.*	*Inches.*
0^h	30.0096	30.0068	+0.0028	Noon.	30.0125	30.0140	—0.0015
1	30.0077	30.0061	+0.0016	1^h	30.0116	30.0126	—0.0010
2	30.0031	30.0060	—0.0029	2	30.0139	30.0128	+0.0011
3	30.0083	30.0072	+0.0011	3	30.0146	30.0147	—0.0001
4	30.0096	30.0091	+0.0005	4	30.0171	30.0164	+0.0007
5	30.0111	30.0107	+0.0004	5	30.0126	30.0128	—0.0002
6	30.0110	30.0115	+0.0005	6	30.0156	30.0128	+0.0028
7	30.0119	30.0122	—0.0003	7	30.0085	30.0085	±0.0000
8	30.0134	30.0135	—0.0001	8	30.0044	30.0055	—0.0011
9	30.0161	30.0152	+0.0009	9	30.0050	30.0049	+0.0001
10	30.0144	30.0163	—0.0019	10	30.0083	30.0059	+0.0024
11	30.0177	30.0176	+0.0001	11	30.0029	30.0068	—0.0039
Mean = 30.0109 inches.							

The above values thrown into a curve result in the following diagram:

Diurnal fluctuation of atmospheric pressure during the winter-half-year.



On inspecting the above curve we find the absolute maximum of the day to occur at about $10^h\ 45^m$ a. m. and the absolute minimum at about 9^h p. m. Both the computed and observed maxima coincide in regard to time; not so, however, with the minima, as the observed minimum occurs about two hours later than the one computed by means of the formula. Besides the absolute maximum, there is a secondary maximum of $30^{in}.0164$ occurring at about 4^h p. m. Between the absolute and relative maximum the curve passes through a relative minimum of $30^{in}.0126$ at about 1^h p. m.; another relative minimum occurs at about 2^h a. m. The diurnal range during the winter-half is $0^{in}.0127$, being somewhat greater than at Port Foulke and somewhat smaller than at Rensselaer Harbor, as made out for the whole year.

Correcting the preceding table, exhibiting the diurnal fluctuation of atmospheric pressure, for the tension of vapor, we get the following values:

Diurnal fluctuation corrected for tension of vapor.

Time.	Inches.	Time.	Inches.	Time.	Inches.	Time.	Inches.
0^h	29.9829	6^h	29.9847	Noon.	29.9869	6^h	29.9874
1	29.9820	7	29.9858	1^h	29.9855	7	29.9829
2	29.9816	8	29.9870	2	29.9857	8	29.9798
3	29.9823	9	29.9885	3	29.9878	9	29.9805
4	29.9837	10	29.9895	4	29.9898	10	29.9815
5	29.9848	11	29.9907	5	29.9865	11	29.9829
Mean = 29.9851 inches.							

the mean thus becoming $0^{in}.0258$ smaller than before the separation was effected.

After having given the diurnal fluctuation during the winter-half-year, a few remarks may be made regarding the diurnal fluctuation during winter and spring properly.*

The winter curve shows similar features to that representing the diurnal fluctuation during the six months in question; the absolute maximum of $29^{in}.8762$ occurring about 8^h a. m. and the absolute minimum of $29^{in}.7738$ at about 10^h p. m. Besides the absolute maximum there is a secondary maximum of $29^{in}.8630$, occurring at about 4^h p. m. Two secondary minima of $29^{in}.8135$ and $29^{in}.7871$, respectively, take place at about noon and 2^h a. m., respectively. The diurnal range during this season is $0^{in}.1024$.

The spring curve is less regular than that representing the diurnal fluctuation during the preceding season. The absolute maximum of $30^{in}.0261$ occurs at about 6^h a. m. and the absolute minimum of $30^{in}.0016$ at about 6^h p. m., the curve thus showing a range of $0^{in}.0245$, being $0^{in}.0779$ smaller than during winter.

The following table contains the maxima and minima of atmospheric pressure as observed during seven months. The readings are corrected both for temperature and elevation:

Monthly extremes.

Months.	Maximum.	Date.		Minimum.	Date.		Range.
	Inches.		*h.*	*Inches.*		*h.*	*Inches.*
November	30.571	30	11 p. m.	29.583	13	1 p.m.	0.988
December	30.582	1	4 a. m.	29.236	12	1 a.m.	1.346
January	30.083	9	5 p. m.	29.121	15	Noon	0.962
February	30.952	21	5 a. m.	28.985	5	Midnight.	1.967
March	30.400	20	8 a. m.	28.946	6	1 a.m.	1.454
April	30.827	11	7 a. m.	29.540	29	5 a.m.	1.287
May	30.581	17	0 a. m.	29.603	9	2 p.m.	0.978

February shows the greatest and January the smallest range. In general, the range at Polaris House is smaller than it was found to be at Port Foulke and at Rensselaer Harbor during the same seasons, where storms were more frequent than at our second winter-quarters.

BARIC WIND-ROSE.

To investigate the influence of the wind on the atmospheric pressure, we proceeded exactly as we did in constructing the thermic wind-rose.

* The above results were deduced from the computed bihourly means of each month, combined for the respective seasons. For reasons mentioned before, we abstain from giving the analytical expressions for the respective months in question.

The following table contains the values thus obtained:

Months.	N.	NE.	E.	SE.	S.	SW.	W.	NW.	Calm.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
November	−0.087	−0.014	−0.004	+0.002	+0.073	+0.137	±0.000	±0.000	−0.107
December	−0.010	+0.037	+0.002	±0.000	+0.009	+0.015	±0.000	±0.000	−0.053
January	±0.000	−0.023	±0.000	−0.095	−0.020	+0.125	+0.003	±0.000	+0.011
February	+0.078	+0.011	+0.001	−0.207	±0.000	+0.001	±0.000	±0.000	+0.126
March	−0.093	+0.029	−0.065	−0.012	−0.101	+0.235	±0.000	±0.000	+0.007
April	−0.013	−0.311	+0.185	+0.091	−0.200	+0.301	±0.000	±0.000	−0.051
May	−0.016	−0.186	+0.006	±0.000	+0.105	+0.094	±0.000	±0.000	−0.003
Seven months	−0.020	−0.065	+0.018	−0.032	−0.019	+0.128	±0.000	±0.000	−0.010
Computed	−0.026	−0.064	+0.010	−0.025	−0.017	+0.133	+0.009	−0.001	−0.019
Difference	+0.006	−0.001	+0.008	−0.007	−0.002	−0.005	−0.009	+0.001	+0.009
Winter	+0.023	+0.008	+0.001	−0.101	−0.004	+0.047	+0.001	±0.000	+0.028
Spring	−0.041	−0.156	+0.042	+0.026	+0.001	+0.210	±0.000	±0.000	−0.012

The analytical elements and expression used in the computation of the wind-rose given above are as follows:

n	a_n	b_n	B_n	C_n
				° ′
1	−0.011	−0.039	+0.040	195 45
2	−0.012	+0.005	+0.013	292 37
3	+0.045	+0.007	+0.008	32 44

$$B=0+0.040 \sin(x+195^\circ 45')+0.013 \sin(2x+292^\circ 37')$$
$$+0.008 \sin(3x+32^\circ 44')$$
$$x=40^\circ, 80^\circ, \ldots$$

It will be seen that, after balancing the resulting average effect for the different directions, all the winds, except those blowing from E., SW., and W., seem to have a depressing effect. Taking, however, into consideration the fact that the series of observations is rather short and that some of the winds are of rare occurrence, the above results cannot be very reliable.

The following table, derived directly from the table giving the hourly means of atmospheric pressure, may be used to reduce hourly barometric readings taken at or near Polaris House to the mean atmospheric pressure of the day:

Correction to be applied to any hourly observation taken at Polaris House to obtain the mean barometric pressure of the day.

Time.	November.	December.	January.	February.	March.	April.	May.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
0^h	−0.0056	+0.0203	+0.0128	+0.0108	+0.0050	−0.0016	+0.0044
1	0.0051	0.0185	−0.0067	0.0061	−0.0170	+0.0026	0.0091
2	0.0068	0.0179	+0.0126	0.0934	−0.0194	0.0013	0.0071
3	0.0110	0.0123	0.0063	0.0015	+0.0153	+0.0070	0.0086
4	0.0115	0.0065	0.0041	+0.0009	0.0065	−0.0017	+0.0037
5	0.0140	0.0055	0.0094	−0.0004	0.0046	0.0056	−0.0012
6	−0.0195	0.0053	0.0081	+0.0007	0.0065	0.0113	0.0064
7	+0.0045	+0.0046	+0.0128	+0.0010	0.0056	0.0110	0.0082
8	−0.0149	−0.0049	−0.0147	−0.0332	0.0023	0.0083	0.0076
9	0.0129	0.0157	−0.0105	0.0356	0.0025	−0.0073	0.0072
10	0.0148	0.0135	+0.0010	−0.0252	0.0345	+0.0134	0.0049
11	0.0084	0.0172	+0.0005	+0.0097	0.0055	−0.0086	0.0037
Noon.	0.0076	0.0135	−0.0038	0.0121	0.0056	−0.0030	0.0030
1^h	0.0073	0.0122	0.0049	0.0118	0.0020	+0.0016	−0.0070
2	0.0042	0.0167	0.0070	0.0060	+0.0025	0.0011	+0.0011
3	−0.0107	0.0136	0.0062	+0.0010	−0.0028	0.0027	0.0005
4	+0.0184	0.0129	0.0099	−0.0003	+0.0200	0.0007	+0.0018
5	0.0197	0.0123	0.0112	−0.0004	−0.0124	0.0003	−0.0063
6	0.0197	0.0124	0.0059	+0.0010	0.0097	0.0006	+0.0006
7	0.0190	−0.0031	0.0071	0.0047	0.0166	0.0036	0.0004
8	0.0173	+0.0131	−0.0114	0.0072	0.0148	0.0082	0.0038
9	0.0221	0.0163	+0.0158	0.0023	0.0092	0.0095	0.0087
10	0.0161	0.0186	0.0097	+0.0064	0.0096	0.0128	0.0027
11	+0.0178	+0.0159	+0.0062	−0.0035	−0.0079	+0.0047	+0.0040

WINDS.

RECORD AND DISCUSSION OF WINDS OBSERVED AT POLARIS BAY.

INTRODUCTORY.

If we are not mistaken, the Polaris Expedition was the first to bring back a continuous series of anemometric observations from the arctic regions, furnishing thus more accurate results than have hitherto been obtained by the common method of estimating the force of the wind.

We were supplied with three anemometers (Robinson's), of which two were made by James Green at New York, and the other by Casella of London. Besides these instruments, we had two small Casella current-meters, frequently used in hospitals to measure the amount of air passing to or from the wards.

One of the anemometers was mounted near the observatory on a pole about six feet high; and a glance at the ground-plan of the observatory, given under the chapter "Temperature of the Air", will give all the explanation that will be needed in regard to its position. Like the rest of the observations, those on the wind were made hourly; in every instance the indication of the dial of the anemometer was noted, and also the velocity of the wind at the moment of observation determined. The latter was done by observing how much the index of the dial advanced during a certain interval of time, or by counting the number of revolutions performed by the cups say during ten or fifteen seconds, assuming that the arms would have to revolve five hundred times to show a difference of one mile in the dial-reading. In some instances, Casella's pocket-instrument was used.

In order to give some idea of the winds during September and October, for which period of time the regular record is lost, we insert three daily observations for the former month that were saved.

The column headed "Dir." gives the direction of the wind;

The one headed "Vel." gives the velocity at the time of observation; and

The column headed "Dist.", the distance traveled during the last twenty-four hours.

The hours of observation are: 7^h a. m., 4^h p. m., and 11^h p. m.

The winds for October were taken from the log-book. The time of observation is not stated there, nor were the velocities measured. The force was given according to Beaufort's scale, and was converted into miles afterward. The regular hourly observations began November 6, 1871, and were continued until we left Polaris Bay. The direction of the wind was recorded from eight points of the compass. No wind-vane was used; the direction being derived from fixed points on shore, the bearings of which had been determined.

The first column of the hourly series contains the direction of the wind; the second, the velocity at the time of observation; and the third, the distance traveled during the last hour.

SEPTEMBER, 1871.

Date.	Time.	Dir.	Vel.	Dist.	Date.	Time.	Dir.	Vel.	Dist.	Date.	Time.	Dir.	Vel.	Dist.
Sept. 1	7	N	7	--------	Sept. 11	7	SE	9	55.0	Sept. 21	7	E	4	87.0
	4	N	12			4	0	0			4	0	0	
	11	N	9			11	NW	0			11	0	0	
2	7	NE	13	284.0	12	7	W	12	76.0	22	7	E	18	48.0
	4	SW	5			4	SW	12			4	W	3	
	11	--------	------			11	SW	14			11	0	0	
3	7	--------	------	--------	13	7	0	0	236.0	23	7	E	5	123.0
	4	--------	------			4	SW	0			4	0	0	
	11	SW	4			11	SW	3			11	0	0	
4	7	0	0	--------	14	7	S	4	46.0	24	7	0	0	29.0
	4	N	14			4	SW	11			4	0	0	
	11	NE	9			11	SW	21			11	SE	2	
5	7	SE	6	222.0	15	7	SW	18	241.0	25	7	0	0	15.0
	4	NW	4			4	SW	0			4	W	2	
	11	0	0			11	SW	9			11	S	1	
6	7	NE	5	57.0	16	7	SW	11	138.0	26	7	SE	3	39.0
	4	--------	------			4	SE	0			4	E	5	
	11	NE	3			11	SE	11			11	E	10	
7	7	SW	14	228.0	17	7	0	0	113.0	27	7	W	4	117.0
	4	SW	14			4	0	0			4	SW	11	
	11	SW	0			11	W	4			11	SW	12	
8	7	SW	6	175.0	18	7	0	0	24.0	28	7	SW	9	290.0
	4	SW	8			4	W	14			4	SW	11	
	11	SW	7			11	W	9			11	SW	12	
9	7	SW	12	256.0	19	7	E	1	71.0	29	7	SE	3	155.0
	4	--------	------			4	0	0			4	NE	12	
	11	SE	0			11	0	0			11	NE	27	
10	7	0	0	65.0	20	7	E	3	77.0	30	7	NE	24	--------
	4	W	1			4	E	4			4	NE	14	
	11	SW	7			11	0	0			11	N	16	

OCTOBER, 1871.

Date.	Dir.	Vel.	Date.	Dir.	Vel.	Date.	Dir.	Vel.	Date.	Dir.	Vel.
Oct. 1	N NE NE	32 4 23	Oct. 8	N N	1 4	Oct. 15	NE -------- N	23 13 4	Oct. 22	NE NE	40 40
2	NE --------	23 13	9	N -------- --------	4 0 0	16	N --------	4 0	23	NE --------	40 13
3	NE -------- N S	23 4 4 4	10	N N	4 4	17	SW SW	23 4	24	NE NE	13 4
4	S -------- S	4 23 23	11	N N	23 4	18	S S --------	4 4 4	25	NE	23
5	S S	13 4	12	N N	4 4	19	S --------	4 0	26	NE	23
6	N N	4 23	13	NE NE NE	13 32 4	20	S SW SW	23 23 4	27	N NE	23 4
7	N N	23 4	14	NE NE	23 23	21	N N N	4 23 23	28	SW	10
									29	NE	4
									30	NE	23
									31	NE	40

Day.	NOVEMBER, 1871.														
	6.			7.			8.			9.			10.		
Hour.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.
0h	....	......	....	SW	2.0	4.6	0	0.0	0.5	E	4.0	6.1	E	3.0	3.5
1	....	......	....	SW	0.0	1.4	0	0.0	1.8	E	4.0	6.4	NE	3.0	8.0
2	....	......	....	0	0.0	0.2	NE	4.0	4.2	E	3.0	3.1	NE	10.0	5.6
3	....	......	....	0	0.0	2.0	E	4.0	6.1	E	3.0	5.1	E	3.0	4.5
4	....	......	....	0	0.0	1.8	E	7.0	5.0	E	5.0	4.5	E	1.0	7.7
5	....	......	....	NE	2.0	4.0	E	3.0	4.4	E	3.0	6.5	E	10.5	13.7
6	....	......	....	NE	4.0	6.2	E	4.0	4.6	E	10.0	5.0	E	14.5	16.0
7	....	......	....	SE	6.0	4.4	E	4.0	6.0	E	3.5	5.7	NE	19.0	16.1
8	....	......	....	E	4.0	6.0	E	6.0	11.1	0	0.0	0.0	NE	21.0	18.0
9	W	8.0	11.1	E	5.0	3.6	NE	10.0	8.2	0	0.0	1.4	NE	20.0	17.9
10	W	12.5	9.0	E	4.0	3.2	E	6.0	3.9	N	2.0	0.9	NE	23.0	25.3
11	W	4.0	5.5	E	3.0	3.0	E	1.0	3.7	0	0.0	2.5	NE	21.0	23.2
Noon.	0	0.0	2.8	E	3.0	4.3	SE	1.0	4.4	SE	3.0	3.6	NE	22.5	30.3
1h	W	5.0	7.9	E	5.0	3.3	E	4.0	5.0	SE	3.0	0.8	NE	26.5	29.0
2	SW	9.0	4.4	E	3.0	2.4	E	1.0	5.5	SE	1.0	4.5	NE	22.7	27.3
3	SW	4.0	3.7	E	2.0	3.3	E	3.0	3.2	SE	5.0	6.5	NE	23.5	20.0
4	SW	4.0	14.6	E	3.0	3.9	E	1.0	1.0	E	6.0	5.5	NE	26.0	27.2
5	SW	11.0	8.0	E	4.0	2.0	E	6.0	3.4	E	6.0	3.5	NE	29.0	32.5
6	SW	14.0	6.2	E	2.0	4.5	0	0.0	4.5	SE	5.0	2.5	NE	33.0	31.0
7	SW	9.0	6.8	E	4.0	3.7	0	0.0	4.9	SE	3.0	1.3	NE	33.0	31.5
8	SW	3.0	3.9	NE	3.0	0.6	E	5.0	7.3	0	0.0	0.6	NE	26.5	31.0
9	0	0.0	0.5	0	0.0	5.4	E	6.0	3.1	E	2.0	2.8	NE	26.0	28.0
10	SW	0.5	0.6	NE	6.0	2.3	E	3.0	5.1	E	2.0	3.6	NE	28.5	26.3
11	SW	0.5	2.4	NE	2.0	1.0	E	3.0	0.0	E	3.0	2.6	NE	22.5	22.2
Sums..			87.4			77.1			106.9			85.0			495.8
Means.			5.8			3.2			4.5			3.5			20.7

Day.	NOVEMBER, 1871.														
	11.			12.			13.			14.			15.		
Hour.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.
0h	NE	24.0	25.0	NE	14.0	14.9	NE	12.0	17.2	E	6.0	8.1	NE	13.0	9.6
1	NE	26.0	27.0	NE	12.0	13.9	NE	9.0	17.2	E	8.0	11.7	NE	5.0	6.5
2	NE	26.5	28.5	NE	10.0	5.8	NE	11.0	21.6	NE	21.0	19.8	NE	7.0	11.2
3	NE	28.0	13.0	NE	3.0	7.1	NE	14.0	17.6	NE	17.5	18.7	NE	10.0	10.6
4	NE	18.0	28.0	E	6.0	21.9	NE	19.0	10.5	NE	15.0	15.5	NE	13.0	10.4
5	NE	25.0	25.3	NE	35.0	26.2	NE	8.5	8.5	NE	16.0	9.3	NE	12.5	10.4
6	NE	19.0	23.4	NE	31.0	26.2	NE	9.0	14.4	NE	5.5	12.7	NE	12.0	11.6
7	NE	23.0	20.6	NE	30.0	28.1	NE	12.0	16.0	NE	24.0	17.7	NE	13.5	10.0
8	NE	24.0	22.1	NE	33.0	36.8	NE	14.0	20.6	NE	23.0	18.4	NE	8.5	6.2
9	NE	24.0	25.6	NE	40.2	40.0	NE	17.0	12.8	NE	25.5	23.6	NE	11.5	12.2
10	NE	24.0	27.0	NE	36.0	45.5	NE	2.0	4.0	NE	22.0	26.7	NE	8.0	6.6
11	NE	21.0	16.7	NE	45.0	33.8	E	4.0	2.0	NE	23.0	25.5	NE	3.7	8.5
Noon.	NE	12.0	13.3	NE	34.5	37.9	E	3.0	5.4	NE	37.5	32.1	NE	5.0	9.3
1h	NE	10.0	19.5	NE	36.0	18.8	E	3.0	5.6	NE	25.5	31.0	NE	6.7	8.4
2	NE	12.0	15.9	NE	13.0	6.3	E	14.0	5.1	NE	34.0	34.5	NE	4.4	11.0
3	NE	23.0	26.6	NE	8.0	14.7	NE	2.0	7.2	NE	26.0	24.5	NE	7.5	7.8
4	NE	24.0	23.5	E	6.5	15.7	E	6.0	5.1	NE	29.0	30.0	NE	6.0	9.1
5	NE	24.0	21.5	NE	26.5	27.0	NE	3.7	6.1	NE	26.0	26.9	NE	5.0	12.1
6	NE	22.0	29.4	NE	22.5	21.5	NE	14.0	16.2	NE	28.5	25.5	NE	5.5	3.5
7	NE	27.0	18.1	NE	22.0	13.0	NE	15.0	15.8	NE	22.5	28.4	NE	3.5	2.2
8	NE	19.0	24.1	E	3.0	1.6	NE	8.0	11.5	NE	20.0	24.4	NE	4.6	9.8
9	NE	23.0	22.1	0	0.0	7.8	E	5.0	9.5	NE	22.0	20.4	NE	9.5	10.7
10	NE	22.0	18.9	NE	14.0	9.6	E	9.8	8.2	NE	19.0	17.2	NE	7.0	6.7
11	NE	20.0	14.9	NE	12.0	11.0	E	6.0	3.4	NE	15.0	12.3	NE	4.3	9.9
Sums..			530.0			485.1			261.5			514.9			214.3
Means			22.1			20.2			10.9			21.5			8.9

DECEMBER, 1871.

Day.	6.			7.			8.			9.			10.		
Hour.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.
0^h	SW	32.0	32.7	NE	9.0	7.6	SW	1.0	1.0	0	0.0	3.4	0	0.0	4.1
1	SW	32.0	36.2	NE	6.0	5.8	SW	1.0	3.5	E	2.0	3.5	SW	3.0	6.0
2	SW	30.6	30.0	NE	5.0	0.0	SW	3.0	3.5	NE	3.8	1.1	SW	5.0	2.7
3	W	28.4	27.4	0	0.0	3.2	NE	4.8	3.6	E	1.0	1.8	SW	2.0	2.8
4	NW	26.5	28.2	NE	3.5	2.2	NE	2.6	1.1	E	1.0	1.3	W	1.5	1.9
5	W	30.0	32.5	0	0.0	0.9	NE	1.4	2.6	E	0.5	1.6	N	2.5	2.5
6	W	38.5	20.2	0	0.0	1.3	0	0.0	0.9	E	2.0	0.2	NW	3.0	1.4
7	SW	8.0	9.6	E	0.5	0.9	E	1.5	1.9	0	0.0	2.1	0	0.0	3.8
8	SW	12.5	20.7	NE	0.5	0.5	0	0.0	1.9	NE	1.5	2.1	NW	3.0	3.8
9	SW	7.0	7.2	0	0.0	1.3	E	0.5	1.6	E	2.0	2.7	E	3.5	1.0
10	SW	22.0	16.3	0	0.0	10.6	E	4.5	2.3	NE	2.5	3.8	0	0.0	3.1
11	SW	15.0	16.0	0	0.0	3.0	E	4.5	3.5	SW	3.0	2.7	NE	3.0	2.0
Noon.	SW	15.0	13.1	SW	1.0	1.2	E	4.5	0.9	E	3.5	1.3	NW	1.0	5.6
1^h	SW	10.0	9.7	0	0.0	3.0	0	0.0	2.5	E	1.0	3.4	0	0.0	0.6
2	SW	15.0	14.0	0	0.0	4.8	E	2.0	1.5	E	5.0	3.6	0	0.0	0.7
3	SW	12.6	8.2	SW	1.0	2.4	0	0.0	3.0	E	2.0	5.8	0	0.0	0.5
4	SW	9.4	4.8	0	0.0	4.6	0	0.0	1.5	E	12.0	8.4	0	0.0	2.4
5	0	0.0	2.0	S	4.0	3.5	E	1.0	3.0	E	5.0	4.3	E	3.0	4.0
6	0	0.0	3.5	0	0.0	2.8	E	1.0	1.1	E	1.5	2.6	E	4.8	2.5
7	NE	4.2	3.9	SE	6.8	1.6	E	1.0	2.9	SW	12.5	5.0	E	5.2	2.1
8	NE	4.4	5.1	0	0.0	2.2	E	3.0	4.0	SW	2.0	4.7	0	0.0	1.8
9	NE	4.8	7.5	S	2.5	4.2	NW	4.6	2.9	SW	2.0	1.4	0	0.0	0.4
10	NE	9.0	6.2	0	0.0	2.5	E	3.2	3.5	0	0.0	3.6	E	2.2	4.1
11	NE	3.5	8.5	N	6.2	4.0	E	3.0	1.2	SW	9.0	4.7	E	3.8	1.9
Sums..			363.5			74.1			55.4			75.1			61.7
Means.			15.1			3.1			2.3			3.1			2.6

DECEMBER, 1871.

Day.	11.			12.			13.			14.			15.		
Hour.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.
0^h	0	0.0	0.2	NE	17.0	12.4	NE	7.0	3.9	0	0.0	1.6	E	9.0	8.4
1	0	0.0	0.1	NE	11.5	15.2	E	4.5	4.7	E	1.5	2.4	E	9.0	8.5
2	0	0.0	2.8	NE	14.5	14.2	E	3.0	2.3	E	2.5	6.1	E	4.5	6.3
3	SW	1.5	1.9	NE	13.0	14.1	E	3.0	7.1	E	6.0	3.5	NE	10.0	33.7
4	SW	2.0	6.6	NE	11.0	11.5	E	6.0	6.6	E	3.0	4.5	NE	20.0	17.8
5	E	8.5	14.9	NE	10.0	13.1	E	1.5	1.4	E	0.5	4.3	NE	9.0	23.1
6	E*	18.6	12.5	NE	8.5	13.1	E	7.0	2.0	E	3.5	8.0	E	18.8	29.1
7	SE	3.0	7.8	NE	12.0	9.8	E	1.5	1.3	E	8.0	4.7	E	17.5	17.2
8	E	5.5	3.6	NE	10.0	14.0	0	0.0	0.9	E	4.5	4.0	E	13.7	37.3
9	E	3.5	9.2	NE	3.5	4.4	NE	1.5	7.1	NE	4.0	5.8	E	25.5	28.8
10	E	16.0	16.4	E	4.0	3.1	E	1.5	2.2	E	5.5	4.1	N	28.0	30.1
11	E	18.0	11.2	E	4.0	3.6	E	1.5	6.0	E	4.0	4.1	NE	32.0	31.9
Noon.	NE	16.5	19.3	E	4.0	4.8	E	1.5	3.5	E	4.0	5.4	NE	33.0	34.2
1	NE	13.5	22.2	E	4.5	6.1	E	1.5	3.0	E	7.0	4.6	NE	29.0	26.5
2	NE	22.5	26.9	E	5.0	2.1	E	2.5	3.1	E	5.0	6.4	E	24.0	21.6
3	NE	20.0	26.5	E	3.0	6.3	E	3.0	3.7	E	5.0	4.8	E	18.0	17.7
4	NE	28.0	25.8	E	5.0	5.7	E	3.5	4.4	E	5.0	4.6	NE	18.0	18.0
5	NE	26.0	27.8	E	5.5	5.1	E	6.5	8.8	E	2.2	2.3	E	18.0	15.9
6	NE	20.0	19.0	E	5.2	5.1	NE	8.0	6.2	E	2.5	2.3	NE	18.0	14.6
7	NE	19.0	19.3	E	5.2	6.1	NE	6.5	5.8	0	0.0	1.8	E	15.0	13.1
8	NE	18.0	17.6	E	5.8	3.8	NE	6.0	0.7	E	2.0	6.5	NE	14.4	11.5
9	NE	21.0	18.3	E	4.6	5.1	0	0.0	0.5	E	11.8	4.4	NE	13.5	12.9
10	NE	16.0	17.9	E	4.0	4.2	E	0.5	0.6	0	0.0	2.1	NE	13.5	15.6
11	NE	18.0	17.2	E	4.5	4.7	W	0.5	3.1	E	2.0	9.4	NE	17.5	14.9
Sums..			345.0			187.6			89.0			107.7			488.7
Means.			14.4			7.8			3.7			4.5			20.4

* Heavy squalls; direction changing between SE, E, and NE.

Day.	DECEMBER, 1871.														
	16.			17.			18.			19.			20.		
Hour.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.
0^h	NE	15.0	14.0	N	26.0	30.0	NE	7.0	9.7	SW	22.0	13.9	SW	24.0	25.6
1	NE	13.0	17.4	N	29.0	38.3	NE	9.0	8.0	SW	14.0	14.9	SW	27.0	26.5
2	NE	15.5	14.8	N	26.0	30.0	NE	6.5	7.5	SW	8.0	17.6	SW	26.8	20.9
3	NE	14.0	26.3	N	27.5	45.4	NE	5.0	5.1	SW	18.0	16.2	SW	19.6	21.7
4	NE	24.0	17.5	N	30.0	38.8	NE	4.9	5.3	SW	15.9	14.3	SW	24.9	16.8
5	NE	17.5	23.2	N	28.5	32.1	NE	6.0	6.5	SW	22.4	19.9	SW	25.0	14.8
6	NE	21.3	18.9	NE	32.0	10.7	NE	4.5	4.6	SW	13.0	21.7	SW	15.6	14.8
7	NE	10.0	22.4	NE	5.0	11.3	NE	5.0	4.9	SW	20.5	21.9	SW	12.2	10.7
8	NE	19.5	22.3	NE	12.5	23.3	NE	6.5	4.8	SW	32.1	30.3	S	10.0	13.9
9	NE	22.0	25.6	NE	20.0	18.8	NE	2.0	3.0	SW	28.0	23.1	S	13.0	8.3
10	E	29.0	26.1	NE	16.0	22.2	NE	1.5	2.1	SW	32.5	30.0	SW	8.0	11.0
11	NE	31.3	24.3	NE	23.5	16.8	0	0.0	2.9	SW	29.5	31.4	SW	14.0	14.7
Noon.	NE	25.0	29.3	NE	23.0	20.8	E	3.0	5.0	SW	40.0	33.7	SW	14.0	9.5
1^h	NE	34.0	28.9	NE	23.0	20.2	E	7.0	6.8	SW	38.5	27.5	SW	11.0	7.3
2	NE	30.0	29.1	NE	20.0	19.7	E	7.0	4.8	SW	22.0	22.6	SW	7.0	13.0
3	NE	35.0	32.6	NE	20.0	20.2	E	7.0	5.2	SW	22.0	25.6	SW	14.0	9.2
4	NE	37.0	34.4	NE	18.5	21.2	E	3.0	3.2	S	26.0	23.4	SW	7.0	10.0
5	NE	37.0	34.0	NE	18.5	19.5	E	5.5	3.0	S	28.0	26.7	SW	11.0	9.1
6	NE	30.0	33.5	NE	13.5	10.4	E	3.0	4.7	SW	33.0	24.0	SW	7.5	8.5
7	NE	26.0	25.5	NE	4.0	3.4	SW	7.0	7.8	SW	29.0	23.8	SW	11.0	8.8
8	NE	25.0	28.2	NE	4.0	9.6	SW	9.0	9.3	SW	27.5	25.3	SW	7.0	8.9
9	NE	24.0	31.3	NE	16.0	7.7	SW	9.0	9.7	S	29.5	29.0	SW	11.0	11.5
10	NE	31.0	35.2	NE	1.0	3.3	SW	10.5	12.5	SW	26.0	25.2	SW	14.0	6.4
11	N	33.0	27.3	NE	6.0	7.0	SW	13.5	6.6	SW	24.0	24.2	SW	3.0	5.8
Sums..			622.1			480.7			143.0			566.2			308.0
Means.			25.9			20.0			6.0			23.6			12.8

Day.	DECEMBER, 1871.														
	21.			22.			23.			24.			25.		
Hour.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.
0^h	NW	8.0	6.2	E	4.5	5.2	NE	20.4	21.0	E	13.5	12.5	SW	14.0	8.4
1	NW	5.0	5.9	E	4.5	7.2	NE	18.5	35.5	E	5.0	9.7	E	6.0	4.1
2	NW	2.5	3.9	E	4.0	6.1	NE	33.1	26.9	E	9.0	9.4	E	4.9	5.9
3	NW	3.3	1.8	E	3.0	2.7	NE	30.6	33.6	NE	14.0	11.0	E	10.0	6.7
4	N	2.0	2.7	NE	3.0	0.4	NE	28.4	30.2	NE	8.5	9.4	NE	6.0	1.7
5	NE	1.2	1.3	NE	0.5	0.4	NE	32.5	29.2	NE	9.3	8.4	NE	1.0	1.5
6	NE	1.0	1.1	0	0.0	0.4	NE	21.4	26.1	NE	9.0	5.1	E	2.2	0.7
7	NW	1.0	0.7	NE	2.0	1.6	NE	20.5	37.5	NE	5.0	3.6	E	1.0	1.8
8	NE	1.0	1.6	W	0.5	0.4	NE	36.5	14.1	0	0.0	6.7	E	1.6	0.3
9	E	1.0	6.0	E	4.0	3.6	E	13.0	6.5	NE	5.5	3.4	0	0.0	3.4
10	NE	0.0	0.4	E	6.5	16.9	SE	6.0	11.9	E	4.0	4.2	E	3.5	2.0
11	0	0.0	1.2	NE	27.5	24.4	NE	9.5	23.5	0	0.0	0.0	N	6.0	4.9
Noon.	0	3.0	2.2	NE	2.20	25.8	NE	23.0	21.8	0	0.0	2.1	E	3.0	3.0
1^h	E	2.0	2.0	NE	23.0	27.7	NE	20.5	20.5	0	0.0	0.3	E	3.0	5.9
2	E	6.0	5.8	NE	24.5	26.8	NE	29.0	28.9	SE	6.0	5.1	E	5.0	6.0
3	E	6.0	5.2	NE	27.0	23.9	NE	29.5	23.1	SE	14.0	4.0	E	4.2	3.7
4	SE	3.0	4.6	NE	28.0	35.9	NE	18.0	10.1	SE	14.0	11.6	E	3.6	4.8
5	SE	6.0	4.6	NE	38.4	36.1	SE	3.0	15.8	SE	14.0	10.9	NE	3.5	7.9
6	SE	0.0	3.4	NE	30.0	30.4	E*	13.0	12.2	SE	14.0	11.5	NE	14.8	12.8
7	0	5.5	5.2	NE	30.5	31.0	SW	4.0	9.4	S	13.2	14.2	NE	20.6	20.0
8	E	6.5	4.6	NE	29.5	30.2	E	13.0	11.2	SE	13.8	6.3	NE	26.2	27.2
9	E	3.5	4.5	NE	24.5	28.1	E	3.0	15.4	SW	2.0	10.7	NE	24.5	29.7
10	E	4.0	4.4	NE	32.5	28.2	E	14.0	12.9	SW	6.0	2.8	NE	22.0	17.2
11	E	4.2	4.7	NE	24.5	23.5	E	12.0	12.7	SW	14.0	12.6	NE	19.0	19.3
Sums..			84.0			416.9			490.0			175.5			198.9
Means.			3.5			17.4			20.4			7.3			8.3

* Between 6^h and 7^h p. m., heavy squalls from NE.

Day.	DECEMBER, 1871.														
	26.			27.			28.			29.			30.		
Hour.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.
0h	NE	15.0	9.8	E	3.0	4.9	0	0.0	2.0	NE	24.0	26.0	E	12.5	12.1
1	NE	12.0	6.4	E	5.0	4.3	SE	5.0	4.6	NE	19.0	14.0	E	12.5	8.5
2	0	0.0	7.6	E	5.0	6.2	NE	6.5	6.5	NE	6.5	5.3	E	12.0	9.8
3	NE	4.0	7.5	NE	4.0	3.5	NE	6.5	6.9	E	5.5	4.8	E	5.5	5.7
4	E	4.5	8.4	NE	2.5	3.2	NE	7.7	7.0	NE	6.4	5.0	E	4.0	8.2
5	E	6.8	14.4	E	3.0	3.5	NE	8.0	5.8	NE	5.5	6.3	SE	5.0	9.4
6	E	13.0	13.5	E	4.0	7.6	E	2.8	2.0	NE	6.6	4.9	NE	18.5	13.8
7	E	11.5	9.5	E	9.0	8.7	E	2.5	6.8	NE	4.5	5.4	NE	12.0	11.3
8	E	4.5	6.5	E	9.5	7.6	E	7.5	2.6	NE	6.7	6.8	NE	11.5	10.5
9	NE	7.0	12.2	E	7.5	7.1	0	0.0	3.8	NE	7.0	4.9	E	10.8	10.1
10	NE	14.0	13.7	NE	7.0	7.0	E	5.0	3.7	NE	5.0	5.6	E	10.0	8.0
11	NE	14.0	15.8	E	7.2	4.8	E	4.5	3.7	NE	5.5	4.5	E	10.5	9.0
Noon.	NE	17.0	9.3	E	3.0	5.2	S	3.5	2.7	SE	3.0	6.3	E	8.0	9.9
1h	NE	3.0	3.2	E	4.6	4.4	S	3.0	4.0	0	0.0	2.3	E	12.0	12.2
2	E	3.0	9.3	E	4.5	7.0	S	3.0	8.0	SE	5.0	17.7	E	12.0	11.4
3	E	5.5	6.4	E	5.0	8.9	NE	28.0	35.4	E	8.0	5.1	E	11.5	14.9
4	E	3.0	6.6	E	7.0	8.5	NE	43.0	36.1	E	2.0	4.1	E	14.8	10.6
5	NE	5.0	3.6	E	8.5	6.9	NE	36.5	27.0	E	5.0	7.1	E	7.2	5.4
6	E	4.0	4.3	NE	7.0	6.3	NE	27.2	18.5	N	9.0	10.2	E	3.3	6.1
7	E	4.0	3.3	E	7.0	6.1	NE	16.8	12.2	NW	10.0	5.7	E	4.2	6.3
8	E	4.0	6.0	E	6.5	3.4	NE	7.0	11.0	NW	10.0	5.3	0	0.0	2.8
9	E	7.2	5.5	E	4.0	3.9	NE	15.0	15.4	SW	3.2	7.2	E	4.5	12.1
10	E	3.0	0.9	SE	6.8	6.7	NE	15.5	20.8	E	11.8	12.5	E	13.0	7.8
11	0	0.0	1.2	SE	7.2	4.1	NE	16.0	19.3	E	12.5	11.9	E	7.5	1.6
Sums..			184.7			139.8			265.8			188.9			217.5
Means.			7.7			5.8			11.1			5.0			9.1

Day.	DECEMBER, 1871.			JANUARY, 1872.											
	31.			1.			2.			3.			4.		
Hour.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.
0h	NE	3.5	11.5	E	6.5	6.4	E	3.0	3.6	NE	3.0	8.3	0	0.0	0.4
1	NE	12.5	9.2	E	4.5	4.4	E	2.0	4.5	NE	15.0	10.2	0	0.0	1.8
2	E	5.0	1.6	E	4.2	4.0	E	7.0	6.6	NE	12.9	6.3	E	7.5	5.2
3	NE	2.5	1.6	E	4.0	3.6	NE	6.0	5.5	NE	6.0	15.8	NE	8.0	7.9
4	NE	3.0	2.8	SE	3.5	3.7	NE	6.0	6.2	NE	10.0	8.8	NE	9.5	10.6
5	NE	2.5	4.5	E	3.5	3.6	NE	6.5	6.2	NE	4.8	11.1	NE	11.9	13.8
6	NE	1.5	1.9	E	4.0	5.7	NE	0.5	1.6	N	20.4	24.7	NE	13.0	14.4
7	NE	2.0	5.8	SE	5.5	5.4	NE	2.5	3.5	N	23.8	30.6	NE	16.5	9.9
8	E	10.5	10.5	E	5.0	2.6	NE	4.0	6.9	N	31.5	22.5	SE	6.0	4.6
9	E	9.8	9.0	E	2.0	5.2	0	0.0	1.6	N	21.6	41.0	0	0.0	2.9
10	E	2.0	2.6	SE	4.0	3.2	0	0.0	4.1	NE	39.0	25.9	S	3.0	1.9
11	E	3.0	4.7	SE	3.0	2.1	0	0.0	1.3	NE	21.0	32.6	S	2.0	2.5
Noon.	E	4.5	6.8	0	0.0	3.2	E	3.0	3.4	NE	35.0	34.5	E	2.0	2.1
1h	E	12.0	9.9	E	3.0	2.6	0	0.0	11.7	NE	35.0	24.7	0	0.0	1.2
2	E	8.0	6.3	E	3.0	2.0	NE	12.0	11.1	NE	32.0	33.7	0	0.0	1.2
3	E	8.0	1.7	E	2.8	4.7	0	0.0	2.2	NE	33.5	30.8	S	1.0	0.9
4	E	1.2	3.7	E	3.2	5.2	0	0.0	5.4	NE	28.0	39.0	0	0.0	2.8
5	0	0.0	4.4	E	3.0	5.8	E	2.0	1.8	NE	35.0	7.3	E	4.0	3.5
6	E	3.8	4.9	E	6.5	4.2	E	1.0	7.6	E	4.0	3.7	E	3.5	3.8
7	E	5.7	2.3	E	5.0	6.4	NE	15.0	1.7	E	4.0	7.8	E	4.0	4.2
8	E	2.3	3.1	E	2.0	4.3	NE	2.0	3.6	E	8.0	12.2	E	4.0	3.9
9	E	3.2	4.1	E	2.0	3.3	NE	3.0	2.1	E	12.0	9.1	SE	2.0	3.9
10	E	5.0	5.5	E	5.0	7.0	NE	2.2	3.7	E	6.0	5.0	E	4.0	5.3
11	E	6.0	7.1	E	7.0	4.8	NE	2.5	2.3	E	4.0	1.7	E	4.0	3.1
Sums..			125.5			103.4			108.2			447.3			111.8
Means.			5.3			4.3			4.5			18.6			4.7

JANUARY, 1872.

Day.	5.			6.			7.			8.			9.		
Hour.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.
0h	SE	5.0	3.9	E	3.0	3.6	E	7.0	4.0	E	5.5	6.3	E	2.0	1.6
1	SE	4.0	1.1	SE	3.5	3.4	E	7.5	6.1	E	6.0	5.2	SW	1.0	3.4
2	SE	0.5	1.9	SE	3.5	1.8	E	9.0	7.5	E	5.0	5.8	E	3.0	2.6
3	NE	1.0	1.8	0	0.0	0.2	NE	6.5	8.7	E	7.1	6.7	E	2.6	2.2
4	NE	1.5	0.9	0	0.0	1.8	E	4.0	6.7	E	6.8	6.6	E	3.0	3.6
5	N	0.6	1.0	NE	7.0	3.3	E	11.0	12.2	E	7.0	7.1	SE	3.4	3.1
6	0	0.0	1.2	NE	2.0	3.3	E	0.5	3.2	N	5.3	3.3	SE	2.8	5.3
7	0	0.0	0.2	NE	3.5	6.0	E	3.2	5.9	N	3.0	1.9	SE	5.5	1.8
8	0	0.0	1.0	0	0.0	9.9	E	6.5	1.9	0	0.0	2.6	0	0.0	1.0
9	E	4.6	4.3	0	0.0	1.0	E	2.0	11.5	NE	2.8	0.4	E	0.5	4.0
10	SE	4.0	2.0	0	0.0	2.0	NE	12.0	6.5	0	0.0	0.2	E	4.0	2.4
11	SE	1.0	3.3	SE	7.0	4.2	E	7.0	6.0	0	0.0	1.2	E	2.8	2.9
Noon.	SW	1.0	3.0	SE	2.4	3.3	E	17.0	6.2	0	0.0	1.1	E	1.0	3.9
1h	SW	5.0	4.4	SE	2.8	2.5	......	......	......	0	0.0	0.2	E	2.0	4.1
2	SW	3.0	0.2	SE	3.0	5.2	......	......	......	E	2.0	2.1	E	4.0	0.9
3	0	0.0	0.0	SE	4.0	3.3	......	......	......	E	2.0	3.8	E	1.2	2.8
4	0	0.0	0.0	E	3.0	4.5	......	......	......	E	3.5	3.5	E	3.0	3.1
5	0	0.0	0.0	E	5.3	4.1	......	......	......	E	1.0	1.7	E	2.1	4.1
6	0	0.0	0.0	NE	4.2	1.9	......	......	......	E	3.5	3.5	E	4.2	3.8
7	0	0.0	1.3	SE	1.5	4.1	......	......	......	E	3.5	3.0	E	3.1	4.6
8	E	0.5	0.5	E	4.0	2.2	......	......	......	NE	3.0	4.6	0	0.0	1.0
9	0	0.0	0.7	SE	3.0	5.2	......	......	......	0	0.0	3.8	NE	0.5	3.1
10	0	0.0	0.1	E	6.0	5.0	......	......	......	E	4.5	5.0	NE	20.5	13.3
11	E	3.0	1.9	E	5.0	4.8	......	......	70.6	E	5.0	1.0	NE	8.5	16.3
Sums..			34.7			86.6			157.6			80.6			94.9
Means.			1.4			3.6			6.6			3.4			4.0

JANUARY, 1872.

Day.	10.			11.			12.			13.			14.		
Hour.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.
0h	NE	23.0	24.7	NE	30.0	25.4	NE	35.5	33.2	NE	15.0	4.2	NE	15.3	27.7
1	NE	27.0	25.5	NE	25.0	16.9	NE	30.5	29.2	NE	3.0	2.4	NE	28.0	42.6
2	NE	29.1	36.5	NE	20.0	17.5	NE	29.5	33.2	NE	1.0	8.1	NE	41.5	33.2
3	NE	40.8	40.0	NE	17.5	15.6	NE	37.0	31.2	NE	15.0	13.4	NE	35.8	32.4
4	NE	40.2	32.0	NE	16.3	11.3	NE	37.5	36.2	NE	12.5	11.5	NE	32.1	36.7
5	NE	30.5	45.5	NE	10.5	7.1	NE	39.5	33.8	NE	10.5	10.8	NE	35.0	41.6
6	NE	20.0	23.8	NE	7.6	10.7	NE	37.0	32.4	NE	12.5	13.5	NE	31.3	38.0
7	NE	25.5	41.7	NE	10.0	11.9	NE	35.0	33.2	NE	12.5	8.2	NE	36.3	33.3
8	NE	20.5	29.5	NE	8.5	2.9	NE	34.2	33.0	0	0.0	4.2	NE	32.5	23.8
9	NE	32.0	33.8	NE	3.0	4.5	NE	33.0	30.0	E	5.0	6.8	NE	24.0	19.9
10	NE	28.5	23.7	NE	5.0	7.2	NE	41.0	30.0	E	6.5	5.1	NE	16.0	12.3
11	NE	16.0	11.1	E	12.5	11.7	NE	28.5	32.0	SW	7.0	9.7	NE	12.5	19.0
Noon.	NE	14.0	11.1	E	12.5	6.3	NE	34.0	38.2	N	3.0	9.7	NE	26.0	17.0
1h	NE	16.0	21.1	NE	2.0	3.4	NE	33.8	31.4	0	0.0	8.1	NE	20.5	17.7
2	NE	17.4	18.0	W	1.0	4.0	NE	32.2	33.2	E	17.3	3.3	NE	18.0	17.2
3	NE	19.0	20.3	NE	7.0	6.2	NE	39.8	39.0	NE	7.0	5.3	SW	5.0	10.3
4	NE	16.0	15.9	NE	5.5	5.8	NE	38.4	27.4	E	3.0	13.6	E	15.5	8.6
5	NE	33.5	13.3	0	0.0	2.1	NE	39.6	38.1	E	12.5	1.3	E	2.0	1.8
6	NE	12.6	24.1	NE	3.5	5.0	NE	33.0	33.8	E	16.3	12.9	E	1.0	1.0
7	NE	27.0	15.6	NE	7.4	4.2	NE	19.8	25.2	NE	12.6	16.0	E	2.0	6.6
8	NE	14.4	14.2	NE	4.0	12.2	NE	13.0	11.9	N	15.0	22.4	E	5.0	4.7
9	NE	22.0	27.4	NE	10.0	16.8	NE	33.5	33.9	NE	21.5	16.5	E	4.0	5.9
10	NE	22.5	40.1	NE	24.0	30.3	NE	12.9	25.8	NE	14.4	24.0	E	8.0	3.1
11	NE	27.2	28.8	NE	35.3	32.8	NE	14.5	15.1	NE	20.3	24.8	NE	17.0	16.8
Sums..			590.7			271.8			746.4			255.8			471.2
Means.			24.6			11.3			31.1			10.4			19.6

Day.	JANUARY, 1872.														
	15.			16.			17.			18.			19.		
Hour.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.
0^h	NE	16.5	13.2	SW	1.0	2.0	0	0.0	1.5	0	0.0	0.0	E	3.0	3.9
1	NE	12.5	15.3	SW	2.5	3.8	E	3.0	2.8	0	0.0	0.7	E	4.0	2.8
2	NE	17.5	17.9	E	3.5	4.2	E	0.5	12.2	E	3.1	2.6	E	3.5	5.9
3	NE	17.5	12.1	E	4.0	3.7	E	6.0	3.3	E	3.2	2.3	E	6.0	4.7
4	NE	12.0	13.1	E	3.6	5.2	E	5.2	5.4	E	4.0	3.5	E	5.5	5.1
5	E	12.5	6.6	SE	5.0	7.7	E	4.9	4.6	E	5.0	1.9	E	5.7	6.2
6	NE	5.0	1.3	E	7.3	5.9	E	7.0	5.2	0	0.0	2.0	E	7.5	5.6
7	E	9.6	7.8	E	6.0	4.4	E	5.5	2.6	E	2.0	4.2	E	5.5	5.0
8	E	8.5	5.3	E	5.0	5.8	SE	2.0	3.3	E	4.4	3.6	E	6.0	8.1
9	E	8.0	1.6	SE	5.5	4.2	E	4.5	3.8	0	0.0	0.1	E	8.5	4.3
10	E	1.0	10.0	E	5.0	2.8	E	4.0	4.5	0	0.0	3.0	E	5.0	7.4
11	0	0.0	4.7	E	3.0	2.0	E	4.5	4.2	E	2.0	6.1	E	7.5	4.9
Noon.	E	5.0	6.3	0	0.0	1.9	E	5.5	3.4	E	5.0	5.9	E	5.5	5.5
1^h	E	4.0	5.0	E	2.4	2.7	E	4.0	1.3	E	5.5	5.0	E	5.5	4.8
2	E	5.0	5.1	E	2.3	2.2	0	0.0	6.4	E	5.0	4.7	E	5.0	5.0
3	E	5.0	3.9	E	2.3	1.0	E	6.0	4.3	E	3.0	2.9	E	4.0	5.5
4	0	0.0	1.7	E	1.0	2.3	0	0.0	2.0	E	3.0	4.7	E	6.0	4.0
5	SW	2.0	2.3	E	2.2	3.1	E	3.0	1.6	E	5.0	4.0	E	4.0	4.6
6	SW	10.0	12.0	E	2.0	3.4	E	1.0	2.1	E	1.0	2.8	E	6.5	7.0
7	SW	10.0	7.1	E	3.5	5.7	E	1.0	2.2	E	5.0	4.1	E	5.0	4.9
8	SW	7.0	5.0	E	4.5	4.5	0	0.0	1.1	E	3.0	4.5	E	5.0	2.3
9	SW	3.0	2.7	E	4.0	4.0	E	1.0	0.5	E	7.0	3.5	E	1.5	5.9
10	SW	3.0	3.5	0	0.0	1.0	0	0.0	10.0	E	2.0	3.9	E	6.0	6.8
11	SW	3.5	2.0	N	1.0	2.0	E	1.0	2.2	E	6.1	4.7	E	5.3	1.3
Sums..			165.5			85.5			90.5			80.7			121.5
Means.			6.9			3.6			3.8			3.3			5.1

Day.	JANUARY, 1872.														
	20.			21.			22.			23.			24.		
Hour.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.
0^h	E	2.5	1.9	W	8.0	7.2	NE	2.0	3.0	E	15.5	16.9	NE	1.5	5.5
1	E	0.5	1.0	SW	10.0	14.9	NE	3.5	2.2	N	14.8	15.2	NE	5.0	4.0
2	0	0.0	1.7	SW	19.3	12.4	W	3.5	6.0	NE	12.5	27.8	0	0.0	4.0
3	E	1.0	2.7	SW	20.0	10.9	SW	3.0	6.3	NE	25.0	19.3	NE	1.0	2.0
4	SW	7.0	10.6	SW	13.3	9.5	SW	3.8	9.6	NE	17.0	14.4	NE	3.0	3.9
5	SW	14.2	6.0	SW	12.5	9.9	SW	15.0	11.3	NE	12.0	16.2	NE	3.0	3.3
6	SW	12.3	26.0	SW	5.0	8.4	SW	7.0	9.3	0	0.0	2.1	0	0.0	2.8
7	W	22.1	16.9	SW	10.0	8.2	SW	10.0	16.5	0	0.0	0.2	SE	5.0	4.9
8	SW	20.5	14.7	SW	5.0	7.4	SW	19.0	11.3	0	0.0	0.0	SE	1.0	0.8
9	SW	20.5	17.1	SW	10.0	12.4	SW	7.0	10.9	0	0.0	2.0	0	0.0	1.0
10	SW	15.0	17.6	SW	16.5	11.2	SW	10.0	15.0	E	2.0	5.0	E	5.0	5.8
11	SW	18.5	17.6	SW	12.3	10.8	SW	13.5	17.0	E	5.0	1.5	E	5.0	4.9
Noon.	SW	18.3	19.2	W	3.2	3.8	SW	18.0	12.9	E	1.3	5.1	E	4.6	5.2
1^h	SW	18.6	13.3	S	5.7	4.7	SW	13.5	7.6	E	5.2	5.4	E	4.8	5.1
2	SW	12.0	16.8	SW	4.5	6.8	SW	8.0	11.4	E	4.8	4.6	E	5.2	6.9
3	SW	18.5	15.1	SW	7.0	4.6	SW	12.0	8.4	E	5.0	5.8	E	7.0	5.9
4	SW	14.0	11.0	SW	4.0	4.8	SW	6.0	4.7	E	6.2	8.1	E	6.0	4.0
5	SW	12.0	12.7	SW	6.0	5.2	SW	5.0	9.3	E	7.6	5.1	E	4.0	6.0
6	SW	14.5	13.2	SW	6.2	5.5	SW	8.0	5.4	E	5.2	3.1	E	5.8	8.4
7	SW	7.2	4.7	SW	5.6	5.4	SW	6.0	7.1	E	4.3	4.5	E	7.5	7.9
8	S	0.4	2.5	W	1.5	2.2	SW	7.4	8.6	E	4.2	4.9	E	8.2	6.7
9	W	0.6	0.6	W	2.0	3.3	SW	4.0	5.9	E	6.5	5.9	E	7.3	9.7
10	0	0.0	5.3	W	3.5	0.8	SW	6.2	9.7	NE	5.0	1.9	E	8.5	6.5
11	W	3.0	7.5	SW	0.5	2.8	SW	11.0	15.9	0	0.0	1.6	E	6.0	6.3
Sums..			255.7			173.1			225.3			176.6			121.5
Means.			10.7			7.2			9.4			7.4			5.1

Day.	JANUARY, 1872.														
	25.			26.			27.			28.			29.		
Hour.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.
0^h	E	4.5	4.5	0	0.0	2.2	SE	5.0	2.8	SE	1.5	3.8	E	4.0	4.5
1	E	6.0	5.8	0	0.0	2.6	0	0.0	3.1	SE	3.5	1.7	E	6.5	2.5
2	0	0.0	2.0	E	1.5	4.5	E	4.5	4.7	0	0.0	2.8	0	0.0	4.3
3	N	2.0	2.2	E	5.0	6.0	E	4.5	1.4	E	4.5	1.5	SE	7.0	4.3
4	N	3.0	4.8	E	6.5	6.0	E	1.0	2.7	NW	2.0	1.4	SE	4.0	4.9
5	N	3.0	4.1	E	5.0	4.6	E	3.0	3.1	0	0.0	3.3	SE	7.0	7.1
6	N	5.0	4.1	E	3.0	2.1	E	3.0	2.9	E	4.0	3.2	SE	7.0	3.7
7	N	6.0	3.6	E	3.0	1.3	E	3.0	1.0	E	3.0	2.8	SE	3.0	3.2
8	NE	3.0	4.4	E	2.0	2.4	0	0.0	0.4	SW	3.0	0.5	SE	3.0	3.1
9	SE	6.0	4.2	SW	7.0	2.8	0	0.0	0.6	0	0.0	0.1	SE	3.0	2.7
10	SE	5.0	5.9	SW	2.0	0.2	E	1.0	1.9	0	0.0	1.3	0	0.0	2.2
11	SE	6.0	5.5	0	0.0	1.7	E	2.0	1.9	NE	3.0	3.7	SW	4.0	6.1
Noon.	E	6.0	3.4	SW	2.0	0.8	E	2.0	2.0	E	4.0	1.6	SW	6.0	7.6
1^h	E	5.4	2.7	0	0.0	0.4	NE	2.0	2.6	0	0.0	0.3	SW	7.5	3.7
2	0	0.0	5.3	0	0.0	3.4	NE	3.0	3.5	0	0.0	0.1	SW	4.0	4.4
3	E	4.8	5.3	E	3.5	2.0	E	4.0	2.5	0	0.0	2.3	SW	4.0	7.3
4	E	5.2	9.8	E	2.0	4.5	0	0.0	0.6	SE	2.0	3.0	SW	7.0	4.5
5	E	6.0	9.9	E	4.5	4.8	0	0.0	0.2	E	3.0	2.0	SW	4.5	3.1
6	E	3.5	1.6	E	4.5	7.8	SE	0.5	1.9	E	2.0	3.2	SW	3.0	2.6
7	0	0.0	0.6	E	7.5	6.9	0	0.0	1.7	E	4.0	5.4	0	0.0	1.3
8	0	0.0	0.4	E	7.0	6.8	SE	1.0	4.1	E	4.5	3.2	SW	0.5	5.4
9	E	1.5	1.1	E	6.5	5.4	SE	4.0	3.0	E	2.0	0.9	SW	5.0	3.8
10	0	0.0	1.5	E	6.0	6.8	SE	2.5	2.0	0	0.0	2.9	SW	4.5	2.2
11	E	1.0	1.2	E	6.5	5.9	SE	2.5	1.8	SE	3.0	4.2	SW	1.5	2.8
Sums..			93.9			91.9			53.4			55.2			97.3
Means.			3.9			3.8			2.2			2.3			4.1

Day.	JANUARY, 1872.						FEBRUARY, 1872.								
	30.			31.			1.			2.			3.		
Hour.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.
0^h	SW	3.0	3.5	NE	13.5	13.1	NE	23.5	38.2	NE	25.5	13.3	E	1.0	2.8
1	SW	3.0	2.6	NE	12.0	16.6	NE	37.5	25.2	NE	14.0	15.7	E	2.5	2.4
2	SW	2.5	2.4	NE	16.5	20.8	NE	37.0	32.3	NE	23.4	26.8	E	2.0	4.0
3	S	3.0	4.8	NE	34.0	27.5	NE	32.5	33.1	NE	28.0	21.1	NE	6.0	4.5
4	SE	3.0	3.9	NE	28.5	28.0	NE	33.5	31.0	NE	20.0	22.3	E	3.0	4.4
5	SE	5.0	5.2	NE	34.5	31.2	NE	31.0	33.3	NE	26.0	22.8	E	5.0	4.2
6	SE	5.0	4.9	NE	30.0	31.1	NE	31.0	31.5	NE	20.5	14.8	E	3.5	4.9
7	SE	5.0	5.1	NE	31.0	30.9	NE	31.2	34.2	NE	13.0	12.6	E	5.0	5.4
8	SE	4.8	6.0	NE	31.0	31.8	NE	31.8	31.0	NE	10.5	10.7	E	5.0	4.2
9	SE	7.2	4.7	NE	32.0	36.0	NE	31.5	32.3	NE	10.5	10.6	E	3.5	4.4
10	SE	5.0	4.7	NE	41.0	32.0	NE	31.5	31.3	E	10.5	12.0	E	5.0	5.0
11	SE	4.6	5.0	NE	32.0	29.0	NE	20.5	27.5	E	12.0	15.0	E	5.0	5.5
Noon.	E	5.4	5.4	NE	30.0	32.9	NE	24.5	37.0	NE	16.5	15.1	E	5.0	5.4
1^h	E	5.0	7.6	NE	28.0	34.6	NE	40.5	40.5	NE	15.0	11.1	E	6.0	5.8
2	E	8.0	7.2	NE	35.0	32.0	NE	31.5	39.7	E	8.0	8.7	E	5.0	4.4
3	E	7.0	7.3	NE	34.8	32.5	NE	41.0	45.8	E	8.5	5.7	E	4.5	4.6
4	E	7.2	8.8	NE	30.2	33.3	NE	45.0	21.0	E	6.0	10.3	E	4.5	4.7
5	E	10.0	7.4	NE	32.5	36.0	NE	30.5	43.6	E	10.5	3.1	E	4.5	3.6
6	E	6.5	4.4	NE	33.5	41.8	NE	50.0	53.4	0	0.0	5.2	E	3.5	1.6
7	E	4.0	4.2	NE	40.5	41.9	NE	47.5	40.8	E	4.5	3.9	E	1.5	4.8
8	E	4.5	9.9	NE	44.0	43.5	NE	45.0	47.6	E	5.0	3.9	E	4.5	4.7
9	NE	9.5	8.5	NE	43.5	38.8	NE	35.0	31.8	NE	4.0	4.2	E	5.0	4.7
10	NE	7.5	12.8	NE	40.0	20.7	NE	30.5	20.7	E	3.5	1.4	E	4.5	3.0
11	NE	12.0	13.7	NE	25.5	22.0	NE	24.0	18.2	0	0.0	0.5	E	3.0	2.8
Sums..			150.0			738.0			821.0			270.8			101.8
Means.			6.2			31.2			34.3			11.3			4.3

Day.	4.			5.			6.			7.			8.		
	FEBRUARY, 1872.														
Hour.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.
0h	E	3.0	3.1	E	3.5	4.9	0	0.0	1.2	E	5.0	4.2	E	3.5	6.3
1	E	2.5	3.1	E	5.0	4.8	E	1.0	1.8	E	4.5	4.9	E	6.5	7.2
2	E	2.5	6.0	E	4.5	5.0	E	0.5	3.2	E	5.0	4.2	NE	9.0	17.4
3	0	0.0	1.8	E	7.0	7.9	E	3.0	2.8	E	5.0	3.1	0	0.0	7.6
4	E	2.0	1.8	E	7.0	4.6	E	3.0	2.1	E	2.5	2.8	E	12.5	15.8
5	E	1.5	2.4	E	4.0	3.6	E	2.0	0.2	E	3.0	3.6	NE	19.0	10.9
6	E	2.0	2.2	E	3.5	3.8	0	0.0	0.5	E	3.5	2.8	NE	23.0	29.0
7	E	2.0	3.5	E	4.0	3.6	SE	2.0	2.1	E	3.0	3.4	NE	16.0	16.9
8	E	5.0	5.3	E	4.0	4.2	SE	2.0	4.5	E	2.5	4.1	E	16.0	12.7
9	E	5.0	4.8	E	4.0	3.5	SE	7.0	1.8	E	3.0	3.7	E	12.0	10.8
10	E	5.0	3.6	E	7.0	5.1	SE	1.0	0.6	S	4.0	2.5	E	10.0	9.6
11	E	4.0	1.9	E	5.0	4.0	0	0.0	0.6	SE	3.0	6.5	SE	5.0	8.2
Noon.	E	2.0	4.2	E	4.0	3.1	E	1.0	3.0	SE	4.0	0.8	SE	8.5	6.2
1h	E	4.0	4.9	E	3.0	2.6	E	3.0	5.5	0	0.0	1.7	E	6.0	4.5
2	E	5.0	3.9	E	3.0	4.4	E	6.0	3.4	E	3.0	2.0	SE	3.0	4.2
3	E	4.0	4.0	E	4.5	4.8	E	3.0	4.9	S	2.0	3.3	E	4.5	4.7
4	E	4.0	3.2	E	4.5	4.4	E	5.0	5.0	NE	5.0	2.0	E	4.5	1.9
5	E	3.0	4.6	E	4.5	4.7	E	5.5	5.0	0	0.0	1.3	0	0.0	1.8
6	E	3.0	3.9	E	5.0	4.5	E	4.5	1.8	S	1.0	1.1	0	0.0	5.5
7	E	5.0	4.9	E	4.5	4.7	0	0.0	1.9	0	0.0	1.1	E	6.0	4.0
8	E	3.0	4.1	E	5.0	3.7	E	2.0	2.3	0	0.0	2.7	E	4.0	6.2
9	E	3.5	3.6	SE	3.5	4.3	E	2.0	1.5	NE	3.0	6.0	E	6.0	1.2
10	E	3.5	4.2	E	4.0	0.8	0	0.0	4.2	NE	2.5	4.6	0	0.0	3.7
11	E	4.5	4.1	0	0.0	1.2	E	3.5	5.0	NE	4.0	3.2	SE	3.5	2.0
Sums..			89.1			98.2			64.9			75.6			198.3
Means.			3.7			4.1			16.9			3.2			8.3

Day.	9.			10.			11.			12.			13.		
	FEBRUARY, 1872.														
Hour.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.
0h	E	2.0	6.1	0	0.0	4.3	E	1.0	3.3	NE	30.0	16.7	W	4.5	6.6
1	E	5.5	6.6	NE	5.0	0.2	E	3.5	3.6	NE	19.5	15.1	SW	6.0	4.3
2	E	6.8	8.8	0	0.0	1.3	E	3.5	1.9	NE	18.0	11.7	SW	3.5	9.2
3	E	10.5	7.4	E	2.0	1.4	E	5.0	4.1	NE	12.0	10.2	SW	10.0	6.8
4	E	5.0	4.6	E	1.5	1.6	E	3.0	4.8	NE	9.0	7.0	SW	6.5	8.9
5	E	13.5	9.2	E	2.0	2.3	E	6.5	9.6	NE	6.0	4.1	SW	10.5	11.3
6	NE	14.0	5.6	E	2.5	2.2	E	3.0	4.5	NE	3.5	5.1	SW	12.5	14.1
7	NE	14.5	19.7	E	2.0	2.5	E	12.0	7.2	NE	6.5	5.8	SW	11.0	16.3
8	NE	22.5	18.8	E	2.0	1.8	NE	7.0	6.3	NE	6.0	4.8	SW	17.5	20.2
9	NE	14.5	18.9	E	1.5	2.6	NE	26.0	25.2	0	0.0	3.7	SW	20.0	12.6
10	NE	16.0	16.2	0	0.0	1.3	NE	26.0	43.0	NE	5.0	2.5	SW	14.5	13.4
11	NE	23.0	15.6	SW	3.0	2.6	NE	48.0	40.3	NE	3.0	6.5	SW	14.0	5.9
Noon.	NE	14.5	19.5	E	1.0	1.8	NE	35.0	46.5	NE	2.0	2.0	SW	3.0	4.2
1h	NE	18.0	10.6	SE	2.0	2.3	NE	48.0	47.2	E	2.0	2.6	S	5.5	5.2
2	NE	6.0	11.8	0	0.0	1.8	NE	43.5	45.5	E	3.2	1.0	S	5.0	3.3
3	NE	10.5	4.9	SW	1.0	3.4	NE	47.0	44.0	0	0.0	1.3	E	4.0	4.7
4	0	0.0	1.1	W	3.0	2.3	NE	41.0	43.4	E	2.6	2.7	E	5.0	7.8
5	NE	1.0	1.3	0	0.0	2.4	NE	42.5	39.2	0	0.0	1.7	E	8.0	4.0
6	0	0.0	2.4	SE	3.0	1.9	NE	43.0	39.6	E	2.5	4.7	0	0.0	0.5
7	NE	2.5	2.3	E	2.0	1.9	NE	41.0	45.8	E	4.0	5.4	0	0.0	1.5
8	NE	2.5	3.8	SE	2.0	2.8	NE	39.0	41.3	E	4.5	4.8	E	1.0	2.4
9	NE	3.0	1.6	E	3.0	2.8	NE	41.0	38.5	E	3.0	3.8	SE	2.5	2.6
10	0	0.0	2.3	SE	2.5	1.7	NE	40.5	38.3	E	3.5	4.6	S	2.0	2.1
11	NE	2.5	3.4	E	4.0	4.3	NE	36.0	29.1	SE	5.0	5.0	0	0.0	1.2
Sums..			202.5			53.5			652.2			132.8			169.1
Means.			8.4			2.2			27.2			5.5			7.0

Day.	FEBRUARY, 1872.														
	14.			15.			16.			17.			18.		
Hour.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.
0^{h}	S	1.0	2.6	E	2.5	3.9	NE	1.0	3.5	NW	1.0	3.2	SW	10.0	3.3
1	SE	2.0	0.5	E	3.5	4.7	NE	4.0	6.8	NW	3.5	3.2	SW	2.0	22.9
2	0	0.0	3.1	E	5.0	3.5	E	6.0	3.9	0	0.0	1.5	SW	20.5	28.6
3	E	5.0	7.5	E	3.0	2.2	E	4.0	4.0	0	0.0	1.9	SW	30.5	31.3
4	E	10.0	10.1	E	1.0	1.3	E	4.0	3.8	0	0.0	2.2	SW	30.5	31.4
5	E	10.0	11.2	E	1.0	1.8	0	0.0	2.6	0	0.0	4.6	SW	31.0	43.3
6	E	12.0	9.5	E	1.5	2.2	E	2.0	3.4	0	0.0	2.9	SW	40.0	37.5
7	E	10.0	6.2	E	2.0	2.5	E	4.0	1.5	0	0.0	0.4	SW	37.5	47.5
8	E	8.0	6.8	E	1.0	2.5	E	1.0	6.5	E	1.0	2.1	SW	31.5	49.5
9	E	7.5	4.8	E	1.0	1.2	E	6.0	5.5	0	0.0	0.7	SW	52.0	49.0
10	E	5.0	5.7	E	1.0	1.8	E	5.8	6.3	0	0.0	0.1	SW	45.0	48.9
11	E	5.0	2.9	E	2.0	2.4	E	6.2	5.8	0	0.0	1.0	SW	53.0	44.3
Noon.	0	0.0	1.9	E	2.0	1.2	E	6.3	9.3	0	0.0	2.9	SW	46.5	52.0
1^{h}	E	3.0	4.8	NW	1.0	1.0	E	8.0	6.3	S	3.0	1.8	SW	40.5	52.2
2	E	4.5	2.8	NW	1.0	3.3	E	7.5	8.9	NE	2.0	1.8	SW	53.0	47.6
3	E	3.0	1.9	NW	2.4	2.8	E	10.0	6.8	0	0.0	1.5	SW	47.0	39.4
4	0	0.0	2.4	NW	3.2	3.2	E	5.0	5.1	SW	1.0	1.2	SW	40.0	42.2
5	E	3.0	0.9	NW	3.0	4.2	E	5.0	2.0	0	0.0	2.2	SW	39.5	29.0
6	0	0.0	1.6	NW	4.8	5.7	NW	2.0	2.6	SW	2.0	0.9	SW	29.0	51.7
7	0	0.0	0.1	NW	5.2	5.3	E	2.0	0.5	0	0.0	3.3	SW	48.5	46.9
8	0	0.0	1.1	NW	5.0	2.9	0	0.0	0.0	SW	3.0	4.3	SW	40.0	38.8
9	E	1.0	3.2	SE	3.0	3.4	0	0.0	0.3	S	4.5	2.4	SW	35.5	32.8
10	E	2.5	6.1	SW	3.0	6.4	0	0.0	1.6	SW	2.5	1.8	SW	31.0	30.6
11	E	5.5	2.9	E	6.5	1.7	NW	1.0	1.3	SW	2.0	9.5	SW	36.0	33.8
Sums ..			100.6			71.1			98.3			57.4			934.5
Means .			4.2			3.0			4.1			2.4			38.9

Day.	FEBRUARY, 1872.														
	19.			20.			21.			22.			23.		
Hour.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.	Dir.	Vel.	Dist.
0^{h}	SW	30.0	32.4	NE	40.0	42.8	NE	11.5	12.2	N	20.5	23.1	NE	20.5	18.8
1	SW	29.0	31.8	NE	40.5	29.3	NE	11.0	7.9	N	21.0	23.4	NE	15.0	12.1
2	SW	33.0	21.0	NE	32.0	25.6	NE	10.0	8.7	N	25.5	32.2	NE	10.5	9.0
3	SW	15.0	16.5	NE	18.0	19.3	NE	8.0	6.3	NE	30.0	24.5	NE	8.5	8.7
4	SW	18.0	19.1	NE	21.5	20.2	NE	12.0	6.2	NE	25.0	25.7	NE	8.0	8.2
5	SW	18.0	14.9	NE	18.0	24.3	E	3.0	3.2	NE	24.5	29.9	NE	8.0	3.4
6	W	15.0	10.6	NE	30.0	27.8	E	3.0	5.8	NE	30.0	34.2	0	0.0	2.7
7	NW	9.0	11.4	NE	25.4	33.5	E	7.0	3.5	NE	35.5	34.1	SE	4.0	1.9
8	NW	11.5	11.6	NE	32.5	32.3	0	0.0	2.9	NE	36.0	29.0	SE	3.0	5.5
9	NW	12.0	12.6	NE	32.5	30.2	E	6.0	4.7	NE	32.5	29.6	NE	11.5	10.4
10	NW	12.0	9.4	NE	30.0	30.5	E	4.0	5.1	NE	26.0	32.2	NE	11.0	13.1
11	NW	10.0	5.3	NE	32.0	26.8	E	5.0	2.7	NE	28.5	30.2	NE	14.0	11.5
Noon.	NE	8.0	10.3	NE	23.0	26.2	E	3.0	5.8	NE	32.0	28.6	N	10.0	18.1
1^{h}	NE	10.0	14.1	NE	27.5	25.9	E	6.0	6.0	NE	28.5	32.5	N	20.0	16.0
2	NE	14.5	20.5	NE	26.4	16.2	E	6.0	5.0	NE	35.0	28.9	N	15.5	15.8
3	NE	20.0	22.1	SE	4.0	3.3	E	5.0	4.9	NE	28.5	31.4	N	15.5	21.9
4	NE	22.0	31.6	SE	3.0	5.6	E	5.0	6.1	NE	27.6	29.8	N	22.8	21.0
5	NE	32.5	42.0	SE	4.5	5.5	E	6.0	11.2	NE	30.4	36.2	N	15.5	23.2
6	NE	40.0	45.0	SE	5.5	12.9	N	12.0	13.4	NE	40.3	23.9	NE	21.4	23.1
7	NE	42.5	57.2	NE	11.5	10.4	N	14.5	12.4	NE	26.0	23.8	NE	20.5	17.6
8	NE	54.0	26.9	NE	10.0	12.3	N	10.5	18.8	NE	30.5	32.1	NE	17.0	12.4
9	NE	39.5	35.8	NE	10.5	7.9	N	14.0	23.8	NE	22.5	23.6	NE	11.5	4.2
10	NE	30.0	37.3	NE	10.0	11.2	N	20.0	22.0	NE	20.0	18.7	NE	6.0	8.8
11	NE	36.5	39.0	NE	8.5	11.8	N	20.5	20.7	NE	20.0	21.9	NE	7.5	10.5
Sums ..			581.9			491.8			219.3			679.5			297.9
Means .			24.2			20.5			9.1			28.3			12.4

Day.	DECEMBER, 1871.									
	26.		27.		28.		29.		30.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	4-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Fair.	2-4 st.	Fair.	0	Clear.
1	4-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	0	Clear.
2	3-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
3	3-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
4	1-4 ci.-cum., 3-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
5	1-4 ci.-cum., 3-4 st.	Cloudy.	3-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.	1-4 st.	Fair.
6	1-4 ci.-cum., 3-4 st.	Cloudy.	3-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.	1-4 st.	Fair.
7	2-4 ci.-cum., 2-4 st.	Cloudy.	4-4 st.	Hazy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
8	1-4 ci.-cum., 3-4 st.	Cloudy.	4-4 st.	Hazy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
9	2-4 ci.-cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 ci.-cum., 1-4 st.	Hazy.	1-4 st.	Fair.	1-4 st.	Fair.
10	3-4 ci.-cum., 1-4 st.	Cloudy.	1-4 ci.-cum., 3-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.
11	3-4 ci.-cum., 1-4 st.	Cloudy.	1-4 ci.-cum., 3-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.
Noon.	2-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.	0	Clear.	0	Clear.
1^h	3-4 ci.-cum.	Cloudy.	4-4 st.	Cloudy.	2-4 ci.-cum., 1-4 st.	Cloudy.	0	Clear.	0	Clear.
2	3-4 ci.-cum.	Cloudy.	0	Clear.	2-4 st.	Fair.	0	Clear.	0	Clear.
3	1-4 st.	Fair.	0	Clear.	2-4 st.	Fair.	0	Clear.	0	Clear.
4	0	Clear.	0	Clear.	1-4 st.	Fair.	0	Clear.	0	Clear.
5	0	Clear.	0	Clear.	3-4 st.	Cloudy.	0	Clear.	0	Clear.
6	0	Clear.	0	Clear.	3-4 st.	Cloudy.	0	Clear.	0	Clear.
7	0	Clear.	0	Clear.	4-4 st.	Cloudy.	0	Clear.	0	Clear.
8	0	Clear.	0	Clear.	4-4 st.	Cloudy.	0	Clear.	0	Clear.
9	0	Clear.	0	Clear.	4-4 st.	Cloudy.	0	Clear.	0	Clear.
10	0	Clear.	1-4 st.	Fair.	3-4 st.	Cloudy.	0	Clear.	0	Clear.
11	1-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Cloudy.	0	Clear.	0	Clear.

Day.	DECEMBER, 1871.		JANUARY, 1872.							
	31.		1.		2.		3.		4.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	1-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Fair.	0	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
1	1-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Fair.	0	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
2	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
3	1-4 st.	Fair.	2-4 st.	Fair.	0	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
4	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
5	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
6	1-4 st.	Fair.	2-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Fair.	4-4 st.	Cloudy.	2-4 st.	Fair.
7	0	Clear.	2-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.
8	1-4 st.	Fair.	1-4 st.	Fair.	2-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.
9	1-4 st.	Fair.	1-4 st.	Fair.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.
10	1-4 cum.	Fair.	1-4 ci.-cum., 1-4 st.	Cloudy.	1-4 ci.-cum., 1-4 st.	Fair.	4-4 st.	Cloudy.	0	Clear.
11	1-4 cum.	Fair.	1-4 ci.-cum., 1-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.	0	Clear.
Noon.	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	0	Clear.
1h	1-4 st.	Fair.	2-4 st.	Fair.	2-4 st.	Fair.	4-4 st.	Cloudy.	0	Clear.
2	1-4 st.	Fair.	1-4 ci.-cum., 2-4 st.	Cloudy.	2-4 st.	Fair.	4-4 st.	Cloudy.	0	Clear.
3	1-4 st.	Fair.	1-4 ci.-cum., 2-4 st.	Hazy.	2-4 st.	Fair.	4-4 st.	Cloudy.	0	Clear.
4	1-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Fair.	4-4 st.	Cloudy.	0	Clear.
5	1-4 st.	Fair.	1-4 st.	Clear.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.
6	1-4 st.	Fair.	0	Clear.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	0	Clear.
7	1-4 st.	Fair.	0	Clear.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	0	Clear.
8	1-4 st.	Fair.	0	Clear.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.
9	1-4 st.	Fair.	0	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.
10	2-4 st.	Fair.	0	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.
11	1-4 ci.-cum., 1-4 st.	Fair.	0	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.

Day.	JANUARY, 1872.									
	5.		6.		7.		8.		9.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	1-4 st.	Fair.	3-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.	0	Clear.
1	2-4 st.	Fair.	2-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	0	Clear.
2	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.
3	2-4 st.	Fair.	1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
4	3-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
5	3-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	0	Clear.
6	3-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	0	Clear.
7	4-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	0	Clear.
8	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.
9	3-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.
10	3-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.
11	3-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.	2-4 st.	Fair.	1-4 st.	Fair.
Noon.	3-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.	2-4 st.	Hazy.	1-4 st.	Fair.
1h	3-4 st.	Cloudy.	1-4 st.	Fair.	....	....	3-4 st.	Lt. snow.	1-4 st.	Fair.
2	3-4 st.	Cloudy.	1-4 st.	Fair.	....	....	3-4 st.	Lt. snow.	1-4 st.	Fair.
3	2-4 st.	Fair.	1-4 st.	Fair.	....	....	3-4 st.	Lt. snow.	0	Clear.
4	2-4 st.	Fair.	1-4 st.	Fair.	....	....	3-4 st.	Hazy.	0	Clear.
5	2-4 st.	Fair.	1-4 st.	Fair.	....	....	3-4 st.	Lt. snow.	0	Clear.
6	2-4 st.	Fair.	1-4 st.	Fair.	....	....	3-4 st.	Hazy.	0	Clear.
7	2-4 st.	Fair.	1-4 st.	Fair.	....	....	1-4 st.	Fair.	0	Clear.
8	2-4 st.	Fair.	1-4 st.	Fair.	....	....	1-4 st.	Fair.	0	Clear.
9	3-4 st.	Cloudy.	2-4 st.	Fair.	....	....	1-4 st.	Fair.	0	Clear.
10	4-4 st.	Hazy.	0	Clear.	....	....	0	Clear.	0	Clear.
11	3-4 st.	Cloudy.	0	Clear.	....	....	0	Clear.	0	Clear.

Day.	JANUARY, 1872.									
	10.		**11.**		**12.**		**13.**		**14.**	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	0	Clear.	3-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Hazy.	1-4 st.	Fair.
1	0	Clear.	3-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Fair.	0	Clear.
2	0	Clear.	3-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Hazy.	0	Clear.
3	0	Clear.	3-4 st.	Cloudy.	1-4 st.	Fair.	3-4 st.	Cloudy.	1-4 st.	Fair.
4	0	Clear.	3-4 st.	Cloudy.	2-4 st.	Fair.	3-4 st.	Cloudy.	2-4 st.	Fair.
5	2-4 st.	Fair.	3-4 st.	Cloudy.	2-4 st.	Fair.	3-4 st.	Cloudy.	2-4 st.	Fair.
6	2-4 st.	Fair.	3-4 st.	Cloudy.	2-4 st.	Fair.	3-4 st.	Cloudy.	1-4 st.	Fair.
7	2-4 st.	Fair.	2-4 st.	Fair.	2-4 st.	Fair.	4-4 st.	Cloudy.	1-4 st.	Fair.
8	3-4 st.	Cloudy.	2-4 st.	Fair.	2-4 st.	Fair.	4-4 st.	Cloudy.	2-4 st.	Hazy.
9	3-4 st.	Cloudy.	2-4 st.	Fair.	2-4 st.	Fair.	4-4 st.	Lt. snow.	1-4 st.	Fair.
10	3-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Fair.
11	3-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Hazy.
Noon.	4-4 st.	Hazy.	0	Clear.	2-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Fair.
1^h	4-4 st.	Hazy.	0	Clear.	2-4 st.	Hazy.	1-4 st.	Fair.	2-4 st.	Fair.
2	4-4 st.	Cloudy.	0	Clear.	2-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Fair.
3	4-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Fair.
4	3-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Fair.	0	Clear.	2-4 st.	Fair.
5	3-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Fair.	0	Clear.	2-4 st.	Fair.
6	1-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Fair.	0	Clear.	2-4 st.	Fair.
7	1-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Hazy.	0	Clear.	2-4 st.	Fair.
8	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.	2-4 st.	Fair.
9	2-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	0	Clear.	2-4 st.	Fair.
10	3-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.	0	Clear.	2-4 st.	Fair.
11	3-4 st.	Cloudy.	1 4 st.	Fair.	1-4 st.	Hazy.	0	Clear.	2-4 st.	Fair.

Day.	JANUARY, 1872.									
	15.		16.		17.		18.		19.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	2-4 st.	Fair.	3-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.	1-4 st.	Fair.
1	2-4 st.	Fair.	3-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.	1-4 st.	Fair.
2	2-4 st.	Hazy.	3-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.
3	3-4 st.	Cloudy.	2-4 st.	Hazy.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
4	3-4 st.	Cloudy.	3-4 st.	Hazy.	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.
5	2-4 st.	Hazy.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
6	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
7	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
8	1-4 st.	Fair.	2-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	1-4 st.	Fair.
9	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.
10	1-4 st.	Fair.	0	Clear.	0	Clear.	1-4 st.	Fair.	0	Clear.
11	1-4 st.	Fair.	0	Clear.	0	Clear.	1-4 st.	Fair.	0	Clear.
Noon.	2-4 st.	Hazy.	0	Clear.	1-4 st.	Fair.	0	Clear.	0	Clear.
1h	2-4 st.	Hazy.	0	Clear.	1-4 st.	Fair.	0	Clear.	0	Clear.
2	3-4 st.	Lt. snow.	0	Clear.	1-4 st.	Fair.	0	Clear.	0	Clear.
3	4-4 st.	Lt. snow.	0	Clear.	2-4 st.	Fair.	0	Clear.	0	Clear.
4	4-4 st.	Lt. snow.	1-4 st.	Fair.	2-4 st.	Fair.	0	Clear.	0	Clear.
5	4-4 st.	Lt. snow.	1-4 st.	Fair.	2-4 st.	Fair.	0	Clear.	0	Clear.
6	4-4 st.	Lt. snow.	1-4 st.	Fair.	3-4 st.	Cloudy.	0	Clear.	0	Clear.
7	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.	0	Clear.
8	4-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
9	4-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
10	3-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.	0	Clear.
11	2-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.	0	Clear.

JANUARY, 1872.

Day.	20.		21.		22.		23.		24.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	0	Clear.	4-4 st.	Lt. snow.	3-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 st.	Fair.
1	0	Clear.	4-4 st.	Hazy.	2-4 ci.-cum., 2-4 st.	Cloudy.	1-4 ci.-cum., 2-4 st.	Cloudy.	1-4 ci.-cum.	Fair.
2	1-4 st.	Fair.	4-4 st.	Hazy.	4-4 st.	Hazy.	3-4 st.	Cloudy.	0	Clear.
3	2-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	1-4 st.	Hazy.	1-4 st.	Fair.
4	2-4 st.	Fair.	2-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 st.	Hazy.	1-4 st.	Fair.
5	1-4 ci.-st., 1-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Fair.	4-4 st.	Cloudy.	1-4 st.	Hazy.	1-4 st.	Fair.
6	2-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Fair.	4-4 st.	Cloudy.	1-4 st.	Hazy.	1-4 st.	Fair.
7	1-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Fair.	4-4 st.	Cloudy.	1-4 st.	Hazy.	1-4 st.	Fair.
8	1-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	1-4 st.	Hazy.	1-4 st.	Fair.
9	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Hazy.	1-4 st.	Fair.
10	2-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	1-4 ci.-cum., 2-4 st.	Hazy.	1-4 st.	Fair.
11	2-4 st.	Fair.	4-4 st.	Cloudy.	2-4 st.	Fair.	2-4 st.	Hazy.	1-4 ci.-cum., 1-4 st.	Fair.
Noon.	2-4 st.	Fair.	4-4 st.	Lt. snow.	3-4 st.	Fair.	3-4 st.	Hazy.	2-4 st.	Hazy.
1h	2-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	3-4 st.	Cloudy.
2	2-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	2-4 st.	Hazy.	1-4 st.	Hazy.
3	2-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 st.	Fair.	1-4 st.	Hazy.
4	2-4 st., 1-4 cum.-st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 ci.-cum., 1-4 st.	Fair.	2-4 st.	Hazy.
5	3-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 ci.-cum., 1-4 st.	Fair.	1-4 st.	Hazy.
6	4-4 st.	Hazy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 st.	Fair.	4-4 st.	Hazy.
7	3-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Hazy.
8	4-4 st.	Lt. snow.	1-4 ci.-cum., 3-4 st.	Cloudy.	4-4 st.	Hazy.	1-4 st.	Fair.	1-4 st.	Fair.
9	4-4 st.	Lt. snow.	1-4 ci.-cum., 3-4 st.	Cloudy.	2-4 ci.-cum., 2-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.
10	4-4 st.	Lt. snow.	2-4 ci.-cum., 1-4 st.	Cloudy.	1-4 ci.-cum., 2-4 st.	Cloudy.	1-4 st.	Fair.	1-4 ci.-cum.	Fair.
11	4-4 st.	Lt. snow.	2-4 ci.-cum., 1-4 st.	Cloudy.	3-4 st.	Lt. snow.	1-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Fair.

Day.	JANUARY, 1872.									
	25.		26.		27.		28.		29.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	1-2 ci.-cum.	Fair.	2-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	1-4 st.	Fair.
1	1-2 ci.-cum.	Fair.	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	1-4 st.	Fair.
2	1-4 ci.-cum.	Fair.	2-4 st.	Fair.	0	Clear.	1-4 st.	Hazy.	1-4 st.	Hazy.
3	3-4 st.	Cloudy.	2-4 st.	Fair.	0	Clear.	1-4 st.	Hazy.	3-4 st.	Cloudy.
4	3-4 st.	Cloudy.	2-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	2-4 st.	Hazy.
5	3-4 st.	Cloudy.	2-4 st.	Hazy.	0	Clear.	1-4 ci.-cum., 1-4 st.	Fair.	2-4 st.	Hazy.
6	1-4 ci.-cum., 2-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.
7	2-4 st.	Fair.	1-4 ci.-st., 2-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.
8	2-4 st.	Fair.	1-4 cum., 2-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Hazy.	4-4 st.	Cloudy.
9	1-4 ci.-cum., 1-4 st.	Fair.	1-4 ci.-st., 2-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Hazy.	4-4 st.	Cloudy.
10	1-4 ci.-cum., 1-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Hazy.	3-4 st.	Cloudy.
11	2-4 ci.-cum., 1-4 st.	Cloudy.	1-4 ci.-cum., 1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Hazy.	3-4 st.	Cloudy.
Noon.	1-4 ci.-cum., 2-4 st.	Cloudy.	1-4 ci.-cum.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
1^h	3-4 st.	Cloudy.	0	Clear.	2-4 st.	Hazy.	1-4 st.	Fair.	2-4 st.	Fair.
2	3-4 st.	Cloudy.	0	Clear.	2-4 st.	Hazy.	1-4 st.	Fair.	2-4 st.	Hazy.
3	1-4 ci.-cum., 2-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Hazy.
4	2-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Hazy.
5	1-4 ci.-cum., 2-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Hazy.
6	1-4 st.	Fair.	0	Clear.	1-4 st.	Hazy.	1-4 st.	Fair.	1-4 st.	Hazy.
7	1-4 ci.-cum.	Fair.	1-4 st.	Fair.	2-4 st.	Hazy.	1-4 st.	Fair.	2-4 st.	Hazy.
8	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Hazy.	1-4 st.	Fair.	2-4 st.	Hazy.
9	1-4 st.	Fair.	1-4 ci.-st.	Fair.	1-4 st.	Fair.	0	Clear.	1-4 st.	Hazy.
10	1-4 ci.-cum., 2-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.	0	Clear.	2-4 st.	Hazy.
11	2-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	1-4 ci.-st.	Fair.	2-4 st.	Hazy.

Day.	JANUARY, 1872.				FEBRUARY, 1872.					
	30.		31.		1.		2.		3.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	2-4 st.	Hazy.	2-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
1	2-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
2	2-4 st.	Hazy.	1-4 ci.-cum., 2-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
3	4-4 st.	Cloudy.	2-4 ci.-cum., 2-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.	0	Clear.
4	4-4 st.	Cloudy.	2-4 ci.-cum., 2-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.	0	Clear.
5	4-4 st.	Cloudy.	2-4 ci.-cum., 2-4 st.	Cloudy.	2-4 st.	Fair.	2-4 st.	Fair.	0	Clear.
6	4-4 st.	Cloudy.	1-4 ci.-cum., 2-4 st.	Cloudy.	2-4 st.	Fair.	3-4 st.	Cloudy.	0	Clear.
7	4-4 st.	Cloudy.	2-4 st.	Fair.	2-4 st.	Fair.	3-4 st.	Cloudy.	0	Clear.
8	4-4 st.	Cloudy.	2-4 st.	Fair.	2-4 st.	Fair.	4-4 st.	Cloudy.	0	Clear.
9	4-4 st.	Cloudy.	2-4 st.	Fair.	2-4 st.	Fair.	4-4 st.	Cloudy.	0	Clear.
10	4-4 st.	Cloudy.	2-4 st.	Fair.	2-4 st.	Fair.	3-4 st.	Cloudy.	0	Clear.
11	4-4 st.	Hazy.	2-4 st.	Fair.	2-4 st.	Fair.	4-4 st.	Cloudy.	0	Clear.
Noon.	2-4 st.	Hazy.	2-4 st.	Fair.	2-4 st.	Fair.	4-4 st.	Cloudy.	0	Clear.
1h	3-4 st.	Hazy.	1-4 st.	Fair.	2-4 st.	Fair.	4-4 st.	Cloudy.	0	Clear.
2	2-4 st.	Hazy.	1-4 st.	Fair.	2-4 st.	Fair.	3-4 st.	Cloudy.	0	Clear.
3	2-4 st.	Hazy.	1-4 st.	Fair.	2-4 st.	Fair.	2-4 st.	Hazy.	0	Clear.
4	2-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Fair.	2-4 st.	Hazy.	0	Clear.
5	1-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Fair.	2-4 st.	Hazy.	0	Clear.
6	1-4 st.	Hazy.	1-4 st.	Fair.	2-4 st.	Fair.	2-4 st.	Fair.	0	Clear.
7	1-4 st.	Hazy.	1-4 st.	Fair.	1-4 st.	Hazy.	2-4 st.	Fair.	0	Clear.
8	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Hazy.	1-4 st.	Fair.	1-4 st.	Fair.
9	2-4 st.	Hazy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
10	2-4 st.	Hazy.	1-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.
11	2-4 st.	Hazy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.

Day.	FEBRUARY, 1872.									
	4.		5.		6.		7.		8.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	1-4 st.	Fair.	1-4 st.	Hazy.	0	Clear.	1-4 st.	Hazy.	1-4 st.	Fair.
1	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
2	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Hazy.	1-4 st.	Fair.
3	2-4 st.	Hazy.	2-4 st.	Fair.	2-4 st.	Hazy.	1-4 st.	Fair.	2-4 st.	Hazy.
4	2-4 st.	Hazy.	2-4 st.	Hazy.	3-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Fair.
5	2-4 st.	Hazy.	2-4 st.	Hazy.	4-4 st.	Cloudy.	0	Clear.	2-4 st.	Fair.
6	2-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.
7	2-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.
8	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	0	Clear.	2-4 st.	Fair.
9	1-4 st.	Fair.	1-4 st.	Fair.	3-4 st.	Cloudy.	0	Clear.	2-4 st.	Hazy.
10	1-4 ci.-cum., 2-4 st.	Cloudy.	1-4 st.	Fair.	3-4 st.	Cloudy.	0	Clear.	4-4 st.	Cloudy.
11	1-4 ci.-cum., 2-4 st.	Cloudy.	1-4 st.	Fair.	2-4 ci.-cum., 1-4 st.	Cloudy.	0	Clear.	1-4 ci.-cum., 2-4 st.	Cloudy.
Noon.	2-4 st.	Fair.	1-4 ci.-cum.	Fair.	1-4 ci.-cum., 1-4 st.	Fair.	0	Clear.	2-4 ci.-cum., 1-4 st.	Hazy.
1^h	1-4 cum.-st., 1-4 st.	Fair.	1-4 ci.-cum.	Fair.	1-4 st.	Fair.	0	Clear.	2-4 ci.-cum., 1-4 st.	Fair.
2	1-4 cum.-st., 1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.
3	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.
4	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.
5	1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Hazy.
6	1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Hazy.
7	1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.	0	Clear.
8	1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Fair.
9	0	Clear.	1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
10	1-4 st.	Hazy.	1-4 st.	Fair.	1-4 st.	Hazy.	0	Clear.	1-4 st.	Fair.
11	1-4 st.	Fair.	0	Clear.	1-4 st.	Hazy.	1-4 st.	Fair.	1-4 st.	Hazy.

Day.	FEBRUARY, 1872.									
	9.		10.		11.		12.		13.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	1-4 st.	Hazy.	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Hazy.
1	1-4 st.	Hazy.	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Hazy.
2	4-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Hazy.
3	4-4 st.	Cloudy.	2-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Hazy.
4	2-4 st.	Hazy.	2-4 st.	Fair.	2-4 st.	Fair.	2-4 st.	Hazy.	2-4 st.	Hazy.
5	4-4 st.	Cloudy.	3-4 st.	Cloudy.	2-4 st.	Hazy.	3-4 st.	Cloudy.	3-4 st.	Cloudy.
6	4-4 st.	Cloudy.	1-4 ci.-cum., 2-4 st.	Cloudy.	2-4 st.	Fair.	3-4 st.	Cloudy.	3-4 st.	Cloudy.
7	3-4 st.	Cloudy.	1-4 ci.-cum., 2-4 st.	Cloudy.	2-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
8	1-4 ci.-cum., 2-4 st.	Cloudy.	1-4 ci.-cum., 2-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
9	1-4 ci.-cum., 1-4 st.	Fair.	1-4 ci.-cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
10	1-4 ci.-cum., 1-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 ci.-cum., 3-4 st.	Cloudy.	4-4 st.	Cloudy.
11	1-4 ci.-cum., 2-4 st.	Cloudy.	2-4 st.	Hazy.	4-4 st.	Cloudy.	1-4 ci.-cum., 2-4 st.	Cloudy.	2-4 st.	Fair.
Noon.	1-4 ci.-cum., 2-4 st.	Cloudy.	0	Hazy.	4-4 st.	Cloudy.	2-4 ci.-cum., 1-4 st.	Cloudy.	1-4 st.	Fair.
1h	1-4 ci.-cum., 2-4 st.	Cloudy.	2-4 st.	Hazy.	4-4 st.	Cloudy.	1-4 ci.-cum., 1-4 st.	Fair.	1-4 st.	Fair.
2	1-4 ci.-cum., 2-4 st.	Cloudy.	1-4 ci.-cum., 2-4 st.	Cloudy.	3-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.
3	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.	0	Clear.
4	4-4 st.	Cloudy.	2-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	0	Clear.
5	4-4 st.	Cloudy.	2-4 st.	Hazy.	1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.
6	1-4 st.	Hazy.	2-4 st.	Fair.	2-4 st.	Hazy.	1-4 st.	Fair.	0	Clear.
7	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.
8	1-4 st.	Hazy.	2-4 st.	Hazy.	2-4 st.	Fair.	1-4 st.	Fair.	0	Clear.
9	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Hazy.	0	Clear.
10	1-4 st.	Hazy.	2-4 st.	Hazy.	1-4 st.	Fair.	1-4 st.	Hazy.	0	Clear.
11	1-4 st.	Hazy.	2-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Hazy.	2-4 st.	Fair.

Day.	FEBRUARY, 1872.									
	14.		15.		16.		17.		18.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	1-4 st.	Fair.	0	Clear.	0	Clear.	1-4 st.	Hazy.	4-4 st.	Cloudy.
1	1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.	1-4 st.	Hazy.	2-4 st.	Fair.
2	0	Clear.	1-4 st.	Fair.	0	Clear.	1-4 st.	Hazy.	1-4 st.	Fair.
3	0	Clear.	0	Clear.	0	Clear.	1-4 ci.-cum.	Fair.	4-4 st.	Cloudy.
4	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Fair.	4-4 st.	Cloudy.
5	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Fair.	4-4 st.	Cloudy.
6	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Fair.	4-4 st.	Cloudy.
7	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Fair.	4-4 st.	Cloudy.
8	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.
9	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	2-4 st.	Fair.	4-4 st.	Cloudy.
10	1-4 st.	Fair.	0	Clear.	2-4 st.	Fair.	2-4 st.	Fair.	4-4 st.	Cloudy.
11	1-4 st.	Fair.	1-4 st.	Fair.	1-4 ci.-cum., 2-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.
Noon.	1-4 ci.-cum.	Fair.	1-4 st.	Fair.	1-4 ci.-cum., 2-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.
1^h	1-4 st.	Fair.	2-4 st.	Fair.	2-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
2	1-4 st.	Fair.	2-4 st.	Fair.	2-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
3	1-4 st.	Fair.	2-4 st.	Hazy.	2-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
4	2-4 st.	Fair.	1-4 st.	Hazy.	2-4 st.	Hazy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
5	1-4 st.	Hazy.	4-4 st.	Hazy.	2-4 st.	Hazy.	4-4 st.	Cloudy.	3-4 st.	Cloudy.
6	1-4 st.	Hazy.	1-4 st.	Hazy.	1-4 st.	Hazy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
7	1-4 st.	Fair.	1-4 st.	Hazy.	1-4 st.	Fair.	4-4 st.	Cloudy.	3-4 st.	Cloudy.
8	1-4 st.	Fair.	1-4 st.	Hazy.	1-4 st.	Hazy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
9	1-4 st.	Fair.	1-4 st.	Hazy.	1-4 st.	Hazy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
10	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Hazy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
11	1-4 st.	Fair.	0	Clear.	1-4 st.	Hazy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.

Day.	FEBRUARY, 1872.									
	19.		20.		21.		22.		23.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	4-4 st.	Cloudy.	2-4 st.	Fair.	1-4 ci.-cum., 2-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.
1	3-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	2 4 st.	Fair.
2	4-4 st.	Cloudy.	2-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
3	3-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Fair.
4	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 ci., 1-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Fair.
5	4-4 st.	Cloudy.	4-4 st.	Lt. snow.?	3-4 st.	Lt. snow.	1-4 st.	Fair.	3-4 st.	Cloudy.
6	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 st.	Hazy.	1-4 st.	Fair.	3-4 st.	Cloudy.
7	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	3-4 st.	Cloudy.
8	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.
9	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.
10	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.
11	4-4 st.	Cloudy.	4-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.	4-4 st.	Cloudy.
Noon.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.
1h	4-4 st.	Fair.	4-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.	4-4 st.	Cloudy.
2	1-4 ci.-cum., 1-4 st.	Fair.	3-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.	4-4 st.	Cloudy.
3	1-4 st.	Fair.	1-4 ci.-cum., 3-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.	4-4 st.	Cloudy.
4	2-4 st.	Fair.	3-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.	4-4 st.	Cloudy.
5	2-4 st.	Fair.	3-4 st.	Hazy.	1-4 st.	Fair.	2-4 st.	Fair.	3-4 st.	Cloudy.
6	2-4 st.	Fair.	4-4 st.	Lt. snow.	1-4 st.	Fair.	2-4 st.	Fair.	3-4 st.	Cloudy.
7	2-4 st.	Fair.	4-4 st.	Cloudy.	1-4 st.	Fair.	3-4 st.	Cloudy.	3-4 st.	Cloudy.
8	4-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.	3-4 st.	Cloudy.	3-4 st.	Cloudy.
9	2-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Fair.	3-4 st.	Cloudy.
10	2-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	3-4 st.	Cloudy.	2-4 st.	Fair.
11	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Fair.

4

Day.	FEBRUARY, 1872.									
	24.		25.		26.		27.		28.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 st.	Fair.	2-4 st.	Fair.
1	2-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	0	Clear.	2-4 st.	Fair.
2	3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	0	Clear.	4-4 st.	Cloudy.
3	1-4 ci.-st., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	0	Clear.	3-4 st.	Cloudy.
4	1-4 ci.-st., 1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 st.	Fair.	4-4 st.	Cloudy.
5	1-4 ci.-st., 1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 st.	Hazy.	2-4 st.	Fair.
6	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	2-4 st.	Hazy.	1-4 ci., 2-4 st.	Cloudy.
7	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	3-4 st.	Cloudy.	2-4 ci., 2-4 st.	Cloudy.
8	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	3-4 st.	Cloudy.	2-4 ci., 2-4 st.	Cloudy.
9	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	2-4 st.	Fair.
10	1-4 st.	Fair.	1-4 ci.-st., 3-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	2-4 st.	Fair.
11	1-4 st.	Fair.	2-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.
Noon.	1-4 ci.-cum., 1-4 st.	Fair.	1-4 ci.-cum., 3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.
1h	1-4 ci.-cum., 1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Hazy.
2	1-4 ci.-cum., 1-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 ci.-cum., 1-4 st.	Fair.
3	1-4 ci.-cum., 1-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
4	1-4 ci.-cum., 1-4 st.	Fair.	4-4 st.	Cloudy.	2-4 st.	Fair.	2-4 st.	Fair.	2-4 st.	Fair.
5	3-4 st.	Fair.	4-4 st.	Lt. snow.	1-4 st.	Fair.	1-4 ci.-cum., 2-4 st.	Hazy.	4-4 st.	Cloudy.
6	3-4 st.	Fair.	4-4 st.	Lt. snow.	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.
7	3-4 st.	Fair.	4-4 st.	Lt. snow.	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.
8	4-4 st.	Hazy.	4-4 st.	Lt. snow.	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.
9	3-4 st.	Cloudy.	4-4 st.	Lt. snow.	2-4 st.	Hazy.	2-4 st.	Fair.	2-4 st.	Hazy.
10	3-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Hazy.	2-4 st.	Fair.	2-4 st.	Hazy.
11	3-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Fair.	2-4 st.	Hazy.

Day.	FEBRUARY, 1872.		MARCH, 1872.							
	29.		1.		2.		3.		4.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	2-4 st.	Hazy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.
1	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Hazy.	1-4 st.	Fair.
2	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Hazy.
3	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.
4	2-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.
5	3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.
6	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.
7	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.
8	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.
9	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.
10	1-4 ci.-cum., 3-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
11	1-4 ci.-cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
Noon.	1-4 ci.-cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.	1-4 ci.-cum., 1-4 st.	Cloudy.
1h	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Cloudy.
2	1-4 ci.-cum., 3-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.	2-4 st.	Fair.	2-4 ci.-cum., 1-4 st.	Cloudy.
3	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.	2-4 st.	Fair.	2-4 ci.-cum., 1-4 st.	Cloudy.
4	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.	2-4 st.	Fair.	4-4 st.	Cloudy.
5	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Fair.	4-4 st.	Cloudy.
6	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.
7	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.
8	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.
9	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.
10	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.
11	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.

Day.	MARCH, 1872.									
	5.		6.		7.		8.		9.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.
1	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.
2	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.
3	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.
4	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.
5	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.
6	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.
7	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.
8	4-4 st.	Cloudy.	4-4 st.	H. snow.	4-4 st.	Cloudy.	1-4 st.	Fair.	3-4 st.	Cloudy.
9	4-4 st.	Cloudy.	4-4 st.	H. snow.	3-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.
10	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	2-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.
11	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
Noon.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 ci.-cum., 1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
1h	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 ci.-cum., 1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
2	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
3	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.
4	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.
5	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
6	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.	1-4 st.	Fair.
7	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.	1-4 st.	Fair.
8	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.	1-4 st.	Fair.
9	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.	1-4 st.	Fair.
10	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.	1-4 st.	Fair.
11	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.	1-4 st.	Fair.

Day.	MARCH, 1872.									
	10.		11.		12.		13.		14.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.
1	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
2	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
3	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
4	2-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
5	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
6	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
7	1-4 st.	Fair.	3-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
8	3-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Hazy.	1-4 st.	Fair.
9	2-4 st.	Fair.	2-4 st.	Fair.	2-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.
10	2-4 st.	Fair.	1-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.
11	1-4 st.	Fair.	1-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.
Noon.	1-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Fair.	0	Clear.	1-4 st.	Fair.
1h	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.	0	Clear.
2	1-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Fair.	0	Clear.	1-4 ci.-cum.	Fair.
3	1-4 st.	Fair.	1-4 st.	Fair.	1-4 ci.-cum., 2-4 st.	Cloudy.	0	Clear.	0	Clear.
4	1-4 st.	Fair.	1-4 st.	Fair.	1-4 ci.-cum., 2-4 st.	Cloudy.	0	Clear.	1-4 ci.-cum.	Fair.
5	1-4 st.	Fair.	1-4 st.	Fair.	1-4 ci.-cum., 3-4 st.	Cloudy.	0	Clear.	1-4 ci.-cum., 1-4 st.	Fair.
6	1-4 st.	Fair.	1-4 st.	Fair.	3-4 st.	Cloudy.	0	Clear.	1-4 ci.-cum., 1-4 st.	Fair.
7	1-4 st.	Fair.	1-4 st.	Fair.	3-4 ci.-cum., 1-4 st.	Cloudy.	0	Clear.	2-4 ci.-cum., 1-4 ci.-st.	Cloudy.
8	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	0	Clear.	1-4 ci.-cum., 1-4 st.	Fair.
9	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Lt. snow.	0	Clear.	2-4 st.	Fair.
10	1-4 st.	Fair.	1-4 st.	Fair.	3-4 st.	Hazy.	0	Clear.	2-4 st.	Fair.
11	1-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Hazy.	0	Clear.	2-4 st.	Fair.

Day.	MARCH, 1872.									
	15.		16.		17.		18.		19.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	2-4 st.	Fair.	0	Clear.	2-4 ci., 1-4 st.	Cloudy.	....	....	2-4 st.	Fair.
1	2-4 st.	Fair.	0	Clear.	2-4 ci., 1-4 st.	Cloudy.	....	....	3-4 st.	Cloudy.
2	3-4 st.	Cloudy.	1-4 st.	Fair.	2-4 ci., 1-4 st.	Cloudy.	....	....	3-4 st.	Cloudy.
3	3-4 st.	Cloudy.	1-4 st.	Fair.	3-4 ci.	Cloudy.	0	Clear.	3-4 st.	Cloudy.
4	3-4 st.	Cloudy.	1-4 st.	Fair.	3-4 ci.-cum.	Cloudy.	0	Clear.	2-4 st.	Fair.
5	3-4 st.	Cloudy.	1-4 st.	Fair.	2-4 ci.-cum., 1-4 st.	Cloudy.	0	Clear.	2-4 st.	Fair.
6	2-4 st.	Fair.	0	Clear.	2-4 ci.-cum., 1-4 st.	Cloudy.	0	Clear.	2-4 st.	Fair.
7	2-4 st.	Fair.	0	Clear.	1-4 ci.-cum., 2-4 st.	Cloudy.	0	Clear.	2-4 st.	Fair.
8	0	Clear.	0	Clear.	2-4 st.	Fair.	0	Clear.	2-4 st.	Fair.
9	0	Clear.	0	Clear.	1-4 st.	Fair.	0	Clear.	2-4 st.	Fair.
10	0	Clear.	0	Clear.	1-4 st.	Fair.	0	Clear.	2-4 st.	Fair.
11	0	Clear.	0	Clear.	2-4 st.	Fair.	1-4 ci.-cum.	Fair.	2-4 st.	Fair.
Noon.	0	Clear.	0	Clear.	1-4 st.	Fair.	0	Clear.	1-4 ci.-cum., 1-4 st.	Fair.
1^h	0	Clear.	0	Clear.	1-4 ci.-cum.	Fair.	0	Clear.	2-4 ci.-cum., 1-4 st.	Cloudy.
2	0	Clear.	0	Clear.	1-4 st.	Fair.	0	Clear.	1-4 ci., 1-4 st.	Fair.
3	0	Clear.	0	Clear.	1-4 st.	Fair.	0	Clear.	1-4 ci., 1-4 ci.-cum.	Fair.
4	0	Clear.	0	Clear.	1-4 st.	Fair.	0	Clear.	2-4 ci.-cum., 1-4 st.	Cloudy.
5	0	Clear.	0	Clear.	1-4 st.	Fair.	0	Clear.	3-4 st.	Cloudy.
6	0	Clear.	0	Clear.	0	Clear.	1-4 ci.-cum., 1-4 st.	Fair.	3-4 st.	Cloudy.
7	0	Clear.	1-4 ci., 1-4 st.	Fair.	....	....	1-4 st.	Fair.	4-4 st.	Cloudy.
8	0	Clear.	2-4 ci., 1-4 st.	Cloudy.	....	....	2-4 st.	Fair.	4-4 st.	Cloudy.
9	0	Clear.	2-4 ci., 1-4 st.	Cloudy.	....	....	2-4 st.	Fair.	4-4 st.	Cloudy.
10	0	Clear.	2-4 ci., 1-4 st.	Cloudy.	....	....	2-4 st.	Fair.	4-4 st.	Cloudy.
11	0	Clear.	2-4 ci., 1-4 st.	Cloudy.	....	....	2-4 st.	Fair.	4-4 st.	Cloudy.

Day.	MARCH, 1872.									
	20.		21.		22.		23.		24.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	....	....	....	....
1	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	....	....	....	....
2	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	....	....	....	....
3	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	....	....	1-4 st.	Fair.
4	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	....	....	2-4 st.	Fair.
5	3-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	....	....	2-4 st.	Fair.
6	3-4 st.	Cloudy.	2-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	....	....	1-4 ci.-cum., 2-4 st.	Cloudy.
7	2-4 st.	Fair.	2-4 ci.-cum., 2-4 st.	Cloudy.	3-4 st.	Cloudy.	....	....	2-4 ci.-cum., 1-4 st.	Cloudy.
8	2-4 st.	Fair.	1-4 st.	Fair.	3-4 st.	Cloudy.	....	....	3-4 st.	Cloudy.
9	2-4 st.	Fair.	2-4 st.	Fair.	1-4 ci.-cum., 2-4 st.	Cloudy.	....	....	1-4 ci.-cum., 3-4 st.	Cloudy.
10	1-4 ci.-cum., 1-4 st.	Cloudy.	2-4 st.	Fair.	2-4 st.	Fair.	....	....	1-4 ci.-cum., 2-4 st.	Cloudy.
11	1-4 ci.-cum., 2-4 st.	Cloudy.	1-4 ci.-cum., 2-4 st.	Fair.	2-4 st.	Fair.	....	....	2-4 ci., 1-4 st.	Cloudy.
Noon.	1-4 ci.-cum., 2-4 st.	Cloudy.	3-4 st.	Cloudy.	1-4 st.	Fair.	....	....	1-4 ci., 2-4 st.	Cloudy.
1h	3-4 st.	Cloudy.	3-4 st.	Cloudy.	1-4 st.	Fair.	....	....	2-4 st.	Fair.
2	3-4 st.	Cloudy.	3-4 st.	Cloudy.	2-4 st.	Fair.	....	....	2-4 ci.-cum., 1-4 st.	Cloudy.
3	4-4 st.	Cloudy.	3-4 st.	Cloudy.	2-4 st.	Fair.	....	....	2-4 st.	Fair.
4	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.	....	....	2-4 ci.-cum., 1-4 st.	Cloudy.
5	3-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 ci.-cum.	Fair.	....	....	1-4 st.	Fair.
6	2-4 st.	Fair.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	....	....	1-4 ci.-cum., 1-4 st.	Fair.
7	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	....	....	1-4 st.	Fair.
8	4-4 st.	Cloudy.	4-4 st.	Cloudy.	....	....	....	....	1-4 st.	Fair.
9	4-4 st.	Cloudy.	4-4 st.	Cloudy.	....	....	....	....	1-4 st.	Fair.
10	4-4 st.	Cloudy.	4-4 st.	Cloudy.	....	....	....	....	1-4 st.	Fair.
11	4-4 st.	Cloudy.	4-4 st.	Cloudy.	....	....	....	....	1-4 st.	Fair.

Day.	MARCH, 1872.									
	25.		26.		27.		28.		29.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	1-4 st.	Fair.
1	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	1-4 st.	Fair.
2	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	1-4 st.	Fair.
3	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st	Lt. snow.	4-4 st.	Lt. snow.	1-4 st.	Fair.
4	1-4 ci.-cum., 1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	1-4 st.	Fair.
5	1-4 ci.-cum. 1-4 st.	Fair.	4-4 st.	Cloudy.	1-4 ci.-cum., 2-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 st.	Fair.
6	1-4 ci.-cum., 1-4 st.	Fair.	4-4 st.	Cloudy.	1-4 ci.-cum., 2-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 st.	Fair.
7	1-4 ci.-cum., 1-4 st.	Fair.	3-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 st.	Fair.
8	1-4 ci.-cum., 1-4 st.	Fair.	3-4 st.	Cloudy.	1-4 ci.-cum., 2-4 st.	Lt. snow.	4-4 st.	Lt. snow.	1-4 st.	Fair.
9	1-4 st.	Fair.	3-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	1-4 st.	Foggy.
10	1-4 st.	Fair.	3-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	1-4 st.	Fair.
11	1-4 ci., 2-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	1-4 st.	Foggy.
Noon.	1-4 ci.-cum., 2-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	2-4 st.	Fair.
1h	1-4 ci.-cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	2-4 st.	Fair.
2	2-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 ci.-cum., 3-4 st.	Cloudy.	2-4 st.	Fair.
3	1-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	1-4 ci.-cum., 3-4 st.	Cloudy.	2-4 st.	Fair.
4	1-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	2-4 ci.-cum., 2-4 st.	Cloudy.	2-4 st.	Fair.
5	1-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	2-4 ci.-cum., 2-4 st.	Cloudy.	2-4 st.	Foggy.
6	1-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	3-4 ci.-cum., 1-4 st.	Cloudy.	2-4 st.	Fair.
7	1-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	2-4 ci.-cum., 1-4 st.	Cloudy.	2-4 st.	Fair.
8	1-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	2-4 ci.-cum., 2-4 st.	Cloudy.	2-4 st.	Fair.
9	2-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	1-4 ci.-cum., 1-4 cum., 1-4 st.	Cloudy.	3-4 st.	Cloudy.
10	1-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	2-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.
11	3-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	2-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.

Day.	MARCH, 1872.				APRIL, 1872.					
	30.		31.		1.		2.		3.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	0	Clear.
1	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	0	Clear.
2	3-4 st.	Lt. snow.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	0	Clear.
3	3-4 st.	Lt. snow.	1-4 cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	0	Clear.
4	2-4 st.	Lt. snow.	1-4 cum., 2-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	0	Clear.
5	2-4 st.	Lt. snow.	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	0	Clear.
6	1-4 ci.-cum., 1-4 st.	Fair.	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 cum., 1-4 st.	Cloudy.	0	Clear.
7	2-4 ci.-cum., 2-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 st.	Fair.	0	Clear.
8	2-4 cum., 1-4 st.	Lt. snow.	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 st.	Fair.	0	Clear.
9	2-4 ci.-cum., 2-4 st.	Lt. snow.	3-4 cum., 1-4 st.	Cloudy.	2-4 cum., 1-4 st.	Lt. snow.	1-4 st.	Fair.	0	Clear.
10	2-4 cum., 2-4 st.	Lt. snow.	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 st.	Fair.	0	Clear.
11	3-4 cum., 1-4 st.	Lt. snow.	2-4 cum., 2-4 st.	Cloudy.	2-4 cum., 1-4 st.	Lt. snow.	1-4 st.	Fair.	0	Clear.
Noon.	3-4 cum., 1-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	4-4 st.	Lt. snow.	0	Clear.	0	Clear.
1h	3-4 cum., 1-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	0	Clear.	0	Clear.
2	4-4 st.	Lt. snow.	3-4 cum., 1-4 st.	Cloudy.	3-4 cum., 1-4 st.	Lt. snow.	0	Clear.	0	Clear.
3	4-4 st.	Lt. snow.	2-4 cum., 2-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	0	Clear.	0	Clear.
4	4-4 st.	Lt. snow.	2-4 cum., 2-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	0	Clear.	0	Clear.
5	1-4 ci.-cum., 3-4 st.	Lt. snow.	2-4 cum., 1-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	0	Clear.	0	Clear.
6	1-4 ci.-cum., 3-4 st.	Lt. snow.	3-4 cum., 1-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	0	Clear.	0	Clear.
7	4-4 st.	H. snow.	1-4 ci.-cum., 2-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	0	Clear.	0	Clear.
8	4-4 st.	Lt. snow.	3-4 cum., 1-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	0	Clear.	0	Clear.
9	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	0	Clear.	0	Clear.
10	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	3-4 st.	Cloudy.	0	Clear.	0	Clear.
11	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	0	Clear.	0	Clear.

Day.	APRIL, 1872.									
	4.		5.		6.		7.		8.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	0	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	1-4 cum., 3-4 st.	Lt. snow.
1	0	Clear.	4-4 st.	Cloudy.	2-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Fair.	1-4 cum., 3-4 st.	Lt. snow.
2	0	Clear.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 cum., 3-4 st.	Lt. snow.
3	0	Clear.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 cum., 3-4 st.	Lt. snow.
4	0	Clear.	2-4 ci.-cum., 1-4 st.	Cloudy.	1-4 ci.-cum., 1-4 st.	Fair.	1-4 st.	Fair.	1-4 cum., 3-4 st.	Lt. snow
5	0	Clear.	2-4 ci.-cum., 1-4 st.	Cloudy.	1-4 ci.-cum., 2-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	1-4 cum., 3-4 st.	Lt. snow.
6	0	Clear.	1-4 cum., 1-4 ci.-cum., 1-4 st.	Cloudy.	1-4 ci.-cum., 2-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	1-4 cum., 3-4 st.	Lt. snow.
7	0	Clear.	1-4 cum., 1-4 ci.-cum., 1-4 st.	Cloudy.	2-4 ci., 1-4 st.	Cloudy.	3-4 cum., 4-4 st.	Cloudy.	1-4 cum., 3-4 st.	Lt. snow.
8	0	Clear.	3-4 cum., 1-4 st.	Cloudy.	2-4 ci.	Fair.	1-4 cum., 1-4 st.	Fair.	4-4 st.	Lt. snow.
9	0	Clear.	1-4 cum., 3-4 st.	Cloudy.	2-4 ci.	Fair.	1-4 ci.-cum., 1-4 cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.
10	0	Clear.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 ci.-cum., 1-4 cum.	Fair.	4-4 st.	Lt. snow.
11	0	Clear.	1-4 cum., 3-4 st.	Cloudy,	2-4 ci.	Fair.	1-4 ci.-cum., 1-4 cum.	Fair.	3-4 cum., 1-4 st.	Lt. snow.
Noon.	0	Clear.	2-4 cum., 1-4 st.	Lt. snow.	1-4 ci., 1-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Fair.	3-4 cum.	Cloudy.
1h	0	Clear.	1-4 cum., 3-4 st.	Lt. snow.	1-4 ci., 3-4 st.	Cloudy.	1-4 ci.-cum., 1-4 st.	Fair.	2-4 cum.	Fair.
2	0	Clear.	1-4 cum., 3-4 st.	Cloudy.	1-4 ci., 3-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	1-4 cum., 1-4 st.	Fair.
3	0	Clear.	2-4 cum., 2-4 st.	Lt. snow.	3-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.
4	0	Clear.	2-4 cum., 2-4 st.	Lt. snow.	4-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	3-4 cum., 1-4 st.	Lt. snow.
5	0	Clear.	3-4 cum., 1-4 st.	Lt. snow,	4-4 st.	Cloudy.	2-4 cum., 1-4 st.	Lt. snow.	3-4 cum., 1-4 st.	Lt. snow.
6	1-4 ci., 1-4 st.	Fair.	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 cum., 3-4 st.	Lt. snow.	3-4 cum., 1-4 st.	Lt. snow.
7	1-4 ci., 1-4 st.	Fair.	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	3-4 cum., 1-4 st.	Lt. snow
8	2-4 ci.-cum., 1-4 st.	Fair.	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	3-4 cum., 1-4 st.	Lt. snow.
9	1-4 ci.-cum., 2-4 st.	Fair.	1-4 cum., 3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 cum., 3-4 st.	Cloudy.
10	3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 cum., 2-4 st.	Lt. snow.	4-4 st.	Cloudy.
11	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 cum., 2-4 st.	Lt. snow.	4-4 st.	Cloudy.

Day.	APRIL, 1872.									
	9.		10.		11.		12.		13.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 st.	Hazy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.
1	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 st.	Hazy.	2-4 st.	Fair.	4-4 st.	Cloudy.
2	4-4 st.	Lt. snow.	1-4 cum., 3-4 st.	Lt. snow.	1-4 st.	Hazy.	1-4 st.	Fair.	4-4 st.	Cloudy.
3	4-4 st.	Lt. snow.	1-4 cum., 3-4 st.	Lt. snow.	2-4 ci., 1-4 st.	Lt. snow.	1-4 ci.-cum., 1-4 st.	Fair.	4-4 st.	Lt. snow.
4	4-4 st.	Lt. snow.	2-4 cum., 1-4 st.	Lt. snow.	3-4 ci., 1-4 st.	Lt. snow.	1-4 ci.-cum., 1-4 st.	Fair.	4-4 st.	Lt. snow.
5	4-4 st.	Lt. snow.	1-4 ci.-st., 1-4 st.	Lt. snow.	3-4 ci., 1-4 st.	Lt. snow.	1-4 ci.-cum., 1-4 st.	Fair.	1-4 ci., 2-4 st.	Lt. snow.
6	4-4 st.	Lt. snow.	2-4 ci.-cum., 1-4 st.	Lt. snow.	3-4 ci., 1-4 st.	Lt. snow.	1-4 ci.-cum., 1-4 st.	Fair.	1-4 ci., 1-4 st.	Lt. snow.
7	4-4 st.	Lt. snow.	2-4 ci.-cum., 1-4 st.	Lt. snow.	1-4 st.	Lt. snow.	1-4 ci. and st.	Lt. snow.	2-4 ci., 1-4 st.	Fair.
8	4-4 st.	Lt. snow.	1-4 ci.-cum., 1-4 st.	Fair.	1-4 st.	Lt. snow.	1-4 ci., 1-4 st.	Lt. snow.	1-4 ci., 1-4 st.	Fair.
9	4-4 st.	Lt. snow.	1-4 ci.-cum., 1-4 st.	Fair.	3-4 ci., 1-4 st.	Lt. snow.	1-4 ci., 1-4 st.	Lt. snow.	3-4 ci., 1-4 st.	Cloudy.
10	4-4 st.	Lt. snow.	2-4 ci.-st., 1-4 st.	Cloudy.	2-4 ci., 1-4 st.	Lt. snow.	1-4 ci., 1-4 st.	Fair.	4-4 st.	Cloudy.
11	4-4 st.	Lt. snow.	3-4 ci., 1-4 st.	Lt. snow.	3-4 ci., 1-4 st.	Lt. snow.	1-4 ci., 1-4 st.	Fair.	4-4 st.	Foggy.
Noon.	4-4 st.	Lt. snow.	2-4 ci., 2-4 st.	Lt. snow.	1-4 ci., 1-4 st.	Lt. snow.	2-4 ci., 1-4 st.	Cloudy.	4-4 st.	Foggy.
1h	2-4 cum., 2-4 st.	Lt. snow.	1-4 ci., 3-4 st.	Lt. snow.	1-4 ci., 1-4 st.	Lt. snow.	2-4 ci., 1-4 st.	Cloudy.	4-4 st.	Cloudy.
2	2-4 cum., 2-4 st.	Lt. snow.	2-4 ci., 2-4 st.	Lt. snow.	2-4 ci., 1-4 st.	Lt. snow.	1-4 ci., 2-4 st.	Lt. snow.	4-4 st.	Cloudy.
3	2-4 cum., 2-4 st.	Lt. snow.	2-4 ci., 2-4 st.	Lt. snow.	2-4 ci., 1-4 st.	Lt. snow.	1-4 ci., 2-4 st.	Lt. snow.	4-4 st.	Cloudy.
4	3-4 cum., 1-4 st.	Lt. snow.	1-4 ci., 2-4 st.	Lt. snow.	2-4 ci., 1-4 st.	Lt. snow.	1-4 ci., 2-4 st.	Lt. snow.	4-4 st.	Cloudy.
5	3-4 cum., 1-4 st.	Lt. snow.	1-4 ci., 2-4 st.	Lt. snow.	2-4 ci., 1-4 st.	Lt. snow.	1-4 ci., 1-4 st.	Fair.	4-4 st.	Cloudy.
6	3-4 cum., 1-4 st.	Lt. snow.	1-4 ci., 2-4 st.	Lt. snow.	2-4 ci., 1-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.
7	3-4 cum., 1-4 st.	Lt. snow.	1-4 ci., 2-4 st.	Lt. snow.	2-4 ci., 1-4 st.	Cloudy.	1-4 ci., 1-4 st.	Fair.	4-4 st.	Cloudy.
8	3-4 cum., 1-4 st.	Lt. snow.	1-4 ci., 2-4 st.	Lt. snow.	1-4 ci., 2-4 st.	Cloudy.	2-4 ci., 1-4 st.	Lt. snow.	4-4 st.	Cloudy.
9	4-4 st.	Lt. snow.	1-4 st.	Lt. snow.	1-4 ci., 2-4 st.	Cloudy.	1-4 ci., 1-4 st.	Fair.	4-4 st.	Cloudy.
10	4-4 st.	Lt. snow.	1-4 st.	Lt. snow.	1-4 ci., 2-4 st.	Cloudy.	2-4 st.	Fair.	4-4 st.	Cloudy.
11	4-4 st.	Lt. snow.	1-4 st.	Lt. snow.	3-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.

Day.	APRIL, 1872.									
	14.		15.		16.		17.		18.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	4-4 st.	Cloudy.	1-4 ci., 1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
1	4-4 st.	Cloudy.	1-4 ci., 1-4 st.	Fair.	0	Clear.	0.	Clear.	0	Clear.
2	4-4 st.	Cloudy.	1-4 ci.	Fair.	0	Clear.	0	Clear.	0	Clear.
3	3-4 st.	Cloudy.	1-4 ci.	Fair.	0	Clear.	0	Clear.	0	Clear.
4	3-4 st.	Cloudy.	0	Clear.	0	Clear.	0	Clear.	0	Clear.
5	1-4 ci. and cum., 1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.	0	Clear.
6	1-4 ci., 1-4 ci.-cum.	Cloudy.	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Fair.
7	1-4 ci.	Cloudy.	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Fair.
8	1-4 ci.	Cloudy.	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Fair.
9	1-4 ci.	Cloudy.	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Fair.
10	St.	Fog, with lt. snow.	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Fair.
11	3-4 ci.	Fog, with lt. snow.	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Fair.
Noon.	1-4 ci., 1-4 ci.-st., 1-4 st.	Cloudy.	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Fair.
1^h	4-4 st.	Fog, with lt. snow.	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Fair.
2	1-4 ci., 1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Fair.
3	1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Fair.
4	2-4 ci.	Fair.	0	Clear.	0	Clear.	0	Clear.	0	Clear.
5	1-4 ci.	Fair.	0	Clear.	0	Clear.	0	Clear.	0	Clear.
6	1-4 ci.	Fair.	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Fair.
7	0	Clear.	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Fair.
8	0	Clear.	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Fair.
9	0	Clear.	0	Clear.	0	Clear.	0	Clear.	1-4 ci.-st., 1-4 st.	Fair.
10	1-4 ci.	Fair.	0	Clear.	0	Clear.	0	Clear.	1-4 ci.-st., 1-4 st.	Fair.
11	1-4 ci.	Fair.	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Fair.

Day.	APRIL, 1872.									
	19.		20.		21.		22.		23.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	1-4 st.	Fair.	0	Clear.	2-4 cum., 1-4 st.	Cloudy.	2-4 ci., 1-4 st.	Cloudy.	4-4 st.	Cloudy.
1	1-4 ci., 1-4 st.	Fair.	1-4 ci.-st.	Fair.	1-4 cum., 1-4 st.	Fair.	2-4 ci., 1-4 st.	Cloudy.	4-4 st.	H. snow.
2	1-4 st.	Fair.	1-4 ci.-st.	Fair.	3-4 cum., 1-4 st.	Cloudy.	1-4 ci., 1-4 st.	Fair.	4-4 st.	H. snow.
3	1-4 ci., 1-4 st.	Fair.	0	Clear.	1-4 ci.-st., 2-4 cum.	Cloudy.	2-4 ci.-st.	Fair.	4-4 st.	H. snow?
4	1-4 ci., 1-4 st.	Fair.	0	Clear.	3-4 ci.-st., 1-4 st.	Cloudy.	1-4 ci.	Fair.	4-4 st.	H. snow?
5	1-4 ci., 1-4 st.	Fair.	0	Clear.	4-4 st.	Cloudy.	1-4 cum.	Fair.	4-4 st.	Cloudy.
6	2-4 ci., 1-4 st.	Fair.	0	Clear.	4-4 st.	Cloudy.	0	Clear.	4-4 st.	Cloudy.
7	1-4 ci., 1-4 st.	Fair.	0	Clear.	1-4 ci.-cum., 2-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.
8	1-4 ci., 1-4 st.	Fair.	1-4 ci.	Fair.	1-4 ci.-cum., 1-4 ci.-st., 1-4 st.	Cloudy.	1-4 ci.-cum., 1-4 st.	Fair.	2-4 cum., 2-4 st.	Cloudy.
9	1-4 ci., 1-4 cum.	Fair.	1-4 st.	Fair.	1-4 ci.-cum., 3-4 st.	Cloudy.	1-4 ci.-cum., 2-4 st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.
10	1-4 ci.-st. and cum.	Fair.	1-4 ci.-st., 1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.
11	1-4 ci.-st. and cum.	Fair.	2-4 ci.-st., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 ci., 2-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.
Noon.	1-4 ci.-st.	Fair.	1-4 ci.-st., 1-4 st.	Fair.	4-4 st.	Cloudy.	1-4 ci., 1-4 st.	Fair.	3-4 cum., 1-4 st.	Cloudy.
1h	0	Clear.	2-4 ci.-st., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.	2-4 cum., 1-4 st.	Cloudy.
2	0	Clear.	2-4 ci., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 ci., 2-4 st.	Cloudy.	3-4 cum.	Cloudy.
3	0	Clear.	2-4 ci., 2-4 st.	Cloudy.	4-4 st.	H. snow.	3-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.
4	0	Clear.	1-4 ci., 3-4 st.	Cloudy.	4-4 st.	Lt. snow.	2-4 st.	Fair.	3-4 cum., 1-4 st.	Cloudy.
5	0	Clear.	1-4 ci., 3-4 cum.	Cloudy.	4-4 st.	Lt. snow.	1-4 ci., 1-4 st.	Fair.	3-4 cum.	Cloudy.
6	0	Clear.	1-4 ci.-cum., 3-4 cum. and st.	Cloudy.	4-4 st.	H. snow.	3-4 st.	Hazy.	3-4 cum.	Cloudy.
7	0	Clear.	2-4 ci.-cum., 2-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	2-4 cum.	Fair.
8	0	Clear.	2-4 ci.-cum., 2-4 st.	Cloudy.	4-4 st.	H. snow.	4-4 st.	Cloudy.	....	....
9	0	Clear.	2-4 ci.-cum., 1-4 ci., 1-4 st.	Cloudy.	1-4 ci., 3-4 st.	Cloudy.	4-4 st.	Cloudy.	....	....
10	0	Clear.	1-4 ci.-st., 1-4 st.	Fair.	1-4 ci., 2-4 st.	Cloudy.	1-4 ci.-cum., 2-4 st.	Cloudy.	....	....
11	0	Clear.	1-4 ci.-st., 1-4 cum., 1-4 st.	Cloudy.	2-4 ci., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	....	....

Day.	APRIL, 1872.									
	24.		25.		26.		27.		28.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	1-4 ci., 2-4 st.	Cloudy.	1-4 cum., 3-4 st.	Lt. snow.	0	Clear.	0	Clear.	0	Clear.
1	....	....	1-4 cum., 3-4 st.	Lt. snow.	0	Clear.	0	Clear.	0	Clear.
2	....	....	3-4 cum., 1-4 st.	Lt. snow.	0	Clear.	0	Clear.	0	Clear.
3	....	....	1-4 cum., 2-4 st.	Lt. snow.	0	Clear.	0	Clear.	0	Clear.
4	....	....	2-4 cum., 1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
5	....	....	1-4 cum., 2-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
6	4-4 st.	Cloudy.	1-4 cum., 1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
7	1-4 ci.-cum., 2-4 st.	Lt. snow.	1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
8	1-4 ci., 1-4 cum., 2-4 st.	Lt. snow.	1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
9	4-4 st.	Lt. snow.	1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
10	1-4 ci., 2-4 st.	Lt. snow.	1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
11	1-4 ci., 2-4 st.	Lt. snow.	1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
Noon.	2-4 ci., 1-4 st.	Lt. snow.	1-4 ci., 1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
1^h	1-4 ci., 2-4 st.	Lt. snow.	1-4 ci., 1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
2	2-4 ci., 1-4 st.	Cloudy.	1-4 ci.	Fair.	0	Clear.	0	Clear.	0	Clear.
3	2-4 cum., 2-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
4	2-4 cum., 2-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
5	2-4 cum., 2-4 st.	Lt. snow.	1-4 cum. and st.	Fair.	0	Clear.	0	Clear.	0	Clear.
6	1-4 cum., 3-4 st.	Lt. snow.	1-4 cum. and st.	Fair.	0	Clear.	0	Clear.	0	Clear.
7	1-4 cum., 3-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
8	1-4 cum., 3-4 st.	Lt. snow.	1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
9	1-4 cum., 3-4 st.	Lt. snow.	0	Clear.	0	Clear.	0	Clear.	0	Clear.
10	4-4 st.	Lt. snow.	0	Clear.	0	Clear.	0	Clear.	0	Clear.
11	4-4 st.	Lt. snow.	0	Clear.	0	Clear.	0	Clear.	0	Clear.

Day.	APRIL, 1872.				MAY, 1872.					
	29.		30.		1.		2.		3.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	1-4 ci., 1-4 st.	Fair.	2-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
1	2-4 ci., 1-4 st.	Cloudy.	2-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
2	2-4 ci., 2-4 st.	Cloudy.	2-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
3	2-4 ci., 2-4 st.	Cloudy.	1-4 ci., 1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
4	1-4 ci., 3-4 st.	Cloudy.	1-4 ci., 1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
5	1-4 ci., 2-4 st.	Cloudy.	1-4 ci., 1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
6	1-4 ci., 2-4 st.	Cloudy.	1-4 ci.	Fair.	0	Clear.	0	Clear.	0	Clear.
7	1-4 ci., 1-4 st.	Fair.	1-4 ci.	Fair.	0	Clear.	0	Clear.	0	Clear.
8	1-4 st.	Fair.	1-4 ci. and st.	Fair.	0	Clear.	0	Clear.	0	Clear.
9	1-4 st.	Fair.	1-4 ci. and st.	Fair.	0	Clear.	0	Clear.	0	Clear.
10	1-4 st.	Fair.	1-4 ci. and st.	Fair.	0	Clear.	0	Clear.	0	Clear.
11	2-4 ci. and ci.-st., 1-4 st.	Cloudy.	1-4 ci. and st.	Fair.	0	Clear.	0	Clear.	0	Clear.
Noon.	1-4 ci., 2-4 st.	Cloudy.	1-4 ci. and st.	Fair.	0	Clear.	0	Clear.	0	Clear.
1^h	2-4 ci. & ci.-cum., 1-4 st.	Cloudy.	1-4 ci. and st.	Fair.	0	Clear.	0	Clear.	0	Clear.
2	2-4 ci. & ci.-cum., 1-4 st.	Cloudy.	0	Clear.	0	Clear.	0	Clear.	0	Clear.
3	1-4 ci. & ci.-cum., 1-4 st.	Cloudy.	0	Clear.	0	Clear.	0	Clear.	0	Clear.
4	2-4 ci., 1-4 st.	Cloudy.	0	Clear.	0	Clear.	1-4 ci. and st.	Fair.	0	Clear.
5	1-4 ci., 1-4 st.	Fair.	0	Clear.	0	Clear.	1-4 ci. and st.	Fair.	0	Clear.
6	1-4 ci., 1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.	0	Clear.
7	1-4 ci., 1-4 st.	Fair.	0	Clear.	0	Clear.	ci.	Clear.	0	Clear.
8	1-4 st.	Fair.	0	Clear.	0	Clear.	ci.	Clear.	0	Clear.
9	2-4 st.	Fair.	0	Clear.	0	Clear.	ci.	Clear.	0	Clear.
10	1-4 st.	Fair.	0	Clear.	0	Clear.	ci.	Clear.	0	Clear.
11	2-4 st.	Fair.	0	Clear.	0	Clear.	ci.	Clear.	1-4 st.	Fair.

Day.	MAY, 1872.									
	4.		5.		6.		7.		8.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	1-4 st.	Fair.	0	Clear.	3-4 st.	Cloudy.	1-4 ci., 1-4 st.	Fair.	0	Clear.
1	2-4 st.	Fair.	0	Clear.	3-4 st.	Cloudy.	2-4 st.	Fair.	0	Clear.
2	4-4 st.	Cloudy.	0	Clear.	3-4 st.	Cloudy.	1-4 ci., 1-4 st.	Fair.	0	Clear.
3	4-4 st.	Cloudy.	0	Clear.	1-4 ci. and st.	Fair.	1-4 ci., 2-4 st.	Cloudy.	0	Clear.
4	4-4 st.	Cloudy.	0	Clear.	1-4 ci. and st.	Fair.	0	Clear.	0	Clear.
5	4-4 st.	Lt. snow.	0	Clear.	1-4 ci. and st.	Fair.	1-4 st.	Fair.	0	Clear.
6	4-4 st.	Cloudy.	0	Clear.	1-4 ci., 1-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.
7	4-4 st.	Cloudy.	0	Clear.	2-4 cum., 1-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.
8	4-4 st.	Cloudy.	0	Clear.	1-4 ci., 1-4 cum., 1-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.
9	4-4 st.	Cloudy.	0	Clear.	1-4 ci., 1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.
10	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 ci., 1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.
11	4-4 st.	Cloudy.	1-4 ci. and st.	Fair.	2-4 ci. and ci.-cum., 1-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.
Noon.	4-4 st.	Cloudy.	1-4 ci. and st.	Fair.	1-4 st., 2-4 cum.	Cloudy.	1-4 ci., 1-4 cum.	Fair.	0	Clear.
1^h	4-4 st.	Cloudy.	2-4 ci., 1-4 st.	Cloudy.	3-4 cum.	Cloudy.	1-4 ci.	Fair.	0	Clear.
2	4-4 st.	Cloudy.	1-4 ci., 1-4 st.	Fair.	3-4 cum.	Cloudy.	2-4 ci., ci.-st.	Fair.	0	Clear.
3	1-4 ci., 2-4 st.	Cloudy.	1-4 ci.	Fair.	1-4 ci.-cum., 2-4 cum.	Cloudy.	1-4 ci.	Fair.	0	Clear.
4	1-4 ci., 1-4 st.	Fair.	1-4 ci., 1-4 st.	Fair.	1-4 ci. and cum., 1-4 ci.-cum.	Fair.	1-4 ci., 2-4 cum.	Cloudy.	0	Clear.
5	1-4 ci., 1-4 st.	Fair.	1-4 ci., 2-4 cum.	Cloudy.	1-4 ci. and cum., 1-4 ci.-cum.	Fair.	2-4 ci. and ci.-cum.	Fair.	0	Clear.
6	1-4 st.	Fair.	1-4 ci., 2-4 cum.	Cloudy.	1-4 ci., 1-4 cum.	Fair.	1-4 ci.	Fair.	1-4 ci., St.	Fair.
7	0	Clear.	1-4 ci., 2-4 cum.	Cloudy.	1-4 ci., 1-4 cum.	Fair.	1-4 ci.	Fair.	0	Clear.
8	0	Clear.	2-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.	0	Clear.
9	0	Clear.	4-4 st.	Cloudy.	1-4 ci., 1-4 st.	Fair.	0	Clear.	0	Clear.
10	0	Clear.	4-4 st.	Cloudy.	2-4 ci., 1-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.
11	0	Clear.	4-4 st.	Cloudy.	2-4 st.	Fair.	0	Clear.	0	Clear.

Day.	MAY, 1872.									
	9.		10.		11.		12.		13.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	1-4 st.	Fair.	1-4 st.	Fair.	1-4 ci.-cum.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
1	1-4 st.	Fair.	1-4 st.	Fair.	1-4 ci.-cum., 3-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.
2	1-4 ci., 1-4 st.	Fair.	1-4 st.	Fair.	2-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
3	0	Clear.	2-4 st.	Fair.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
4	1-4 ci.	Fair.	2-4 st.	Fair.	1-4 ci.-cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
5	1-4 st.	Fair.	2-4 st.	Fair.	1-4 ci.-cum., 3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
6	1-4 st.	Fair.	3-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
7	1-4 st.	Fair.	2-4 st.	Fair.	1-4 ci.-cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
8	2-4 st.	Fair.	1-4 st.	Fair.	3-4 ci.-cum.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
9	1-4 ci., 1-4 st.	Fair.	1-4 st.	Fair.	3-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
10	1-4 st.	Fair.	1-4 st.	Fair.	2-4 ci.-cum., 1-4 st.	Cloudy.	2-4 ci.-cum., 2-4 st.	Cloudy.	3-4 st.	Cloudy.
11	1-4 ci.	Fair.	0	Clear.	1-4 ci.-cum., 2-4 st.	Cloudy.	2-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.
Noon.	1-4 ci. and st.	Fair.	0	Clear.	1-4 ci.-cum., 2-4 st.	Cloudy.	1-4 ci., 1-4 st.	Fair.	4-4 st.	Cloudy.
1h	1-4 ci. and st.	Fair.	0	Clear.	1-4 ci.-cum., 2-4 st.	Cloudy.	1-4 ci. and ci.-cum.	Fair.	4-4 st.	Lt. snow.
2	1-4 ci., 1-4 st.	Fair.	0	Clear.	3-4 cum.	Cloudy.	0	Clear.	4-4 st.	Lt. snow.
3	1-4 ci., 1-4 st.	Fair.	0	Clear.	3-4 st.	Cloudy.	1-4 cum.	Fair.	4-4 st.	Lt. snow.
4	1-4 ci., 1-4 st.	Fair.	0	Clear.	4-4 st.	Cloudy.	1-4 ci.-cum., 2-4 cum.	Cloudy.	2-4 st., 1-4 cum.	Cloudy.
5	2-4 ci., 1-4 st.	Cloudy.	0	Clear.	4-4 st.	Cloudy.	1-4 ci.-cum. and st.	Fair.	1-4 ci., 2-4 cum.	Cloudy.
6	1-4 ci., 1-4 st.	Fair.	0	Clear.	4-4 st.	Cloudy.	1-4 ci.-cum.	Fair.	1-4 ci.	Fair.
7	1-4 st.	Fair.	0	Clear.	4-4 st.	Cloudy.	2-4 ci.-cum.	Fair.	1-4 ci., 2-4 cum.	Cloudy.
8	2-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 ci.-cum., 2-4 st.	Cloudy.
9	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	2-4 st.	Fair.	3-4 st.	Cloudy.
10	1-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.	3-4 st.	Cloudy.
11	1-4 st.	Fair.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.	4-4 st.	Cloudy.

Day.	MAY, 1872.									
	14.		15.		16.		17.		18.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	1-4 cum., 2-4 st.	Cloudy.	0	Clear.	0	Clear.	1-4 ci.-cum.	Fair.	1-4 ci.	Fair.
1	4-4 st.	Cloudy.	0	Clear.	0	Clear.	2-4 st.	Fair.	1-4 ci.	Fair.
2	4-4 st.	Cloudy.	0	Clear.	0	Clear.	2-4 cum.	Fair.	1-4 ci.	Fair.
3	4-4 st.	Lt. snow.	0	Clear.	0	Clear.	1-4 st.	Fair.	1-4 ci.	Fair.
4	4-4 st.	Lt. snow.	2-4 st.	Fair.	0	Clear.	1-4 cum., 2-4 st.	Cloudy.	0	Clear.
5	3-4 st.	Lt. snow.	3-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.	0	Clear.
6	4-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	0	Clear.	0	Clear.	1-4 ci.	Fair.
7	3 4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	0	Clear.	0	Clear.	0	Clear.
8	3-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	1-4 cum.	Fair.	0	Clear.	0	Clear.
9	1-4 cum., 1-4 st.	Fair.	2-4 cum., 1-4 st.	Cloudy.	1-4 cum.	Fair.	0	Clear.	0	Clear.
10	1-4 st.	Fair.	2-4 cum., 1-4 st.	Cloudy.	2-4 cum.	Fair.	1-4 ci.-cum.	Fair.	1-4 st.	Fair.
11	1-4 ci. and st.	Fair.	3-4 cum.	Lt. snow.	1-4 cum., 1-4 ci.	Cloudy.	1-4 cum.	Fair.	1-4 ci. and st.	Fair.
Noon.	1-4 ci. and st.	Fair.	3-4 cum.	Cloudy.	1-4 ci., 2-4 cum.	Cloudy.	0	Clear.	1-4 ci. and st.	Fair.
1h	0	Clear.	3-4 cum.	Lt. snow.	1-4 ci., 2-4 cum.	Lt. snow.	0	Clear.	1-4 ci. and st.	Fair.
2	0	Clear.	3-4 cum.	Lt. snow.	1-4 ci., 2-4 cum.	Cloudy.	0	Clear.	1-4 ci., 1-4 st.	Fair.
3	0	Clear.	3-4 cum.	Cloudy.	1-4 ci., 2-4 cum.	Lt. snow.	0	Clear.	1-4 ci., 1-4 st.	Fair.
4	0	Clear.	3-4 cum.	Cloudy.	1-4 ci., 2-4 cum.	Lt. snow.	0	Clear.	1-4 ci., 1-4 st.	Fair.
5	0	Clear.	2-4 cum.	Fair.	2-4 cum.	Fair.	0	Clear.	1-4 ci., 1-4 st.	Fair.
6	0	Clear.	1-4 ci.-cum. and cum.	Fair.	2-4 cum.	Fair.	1-4 st.	Fair.	2-4 ci., 1-4 st.	Cloudy.
7	0	Clear.	0	Clear.	2-4 cum.	Fair.	1-4 ci.-cum.	Fair.	2-4 ci.	Cloudy.
8	0	Clear.	1-4 cum.	Fair.	2-4 cum.	Fair.	1-4 ci.-cum.	Fair.	2-4 ci.	Fair.
9	0	Clear.	1-4 cum.	Fair.	1-4 cum., 1-4 st.	Fair.	st.	Clear.	2-4 ci.	Fair.
10	0	Clear.	0	Clear.	2-4 st.	Fair.	st.	Clear.	2-4 ci. and ci.-cum. and ci.-st.	Fair.
11	0	Clear.	0	Clear.	2-4 st.	Fair.	st.	Clear.	2-4 ci. and ci.-cum. and ci.-st.	Fair.

Day.	MAY, 1872.									
	19.		20.		21.		22.		23.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	1-4 ci. and ci.-cum., 1-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Fair.	0	Clear.	0	Clear.	1-4 ci.-cum., 1-4 st.	Cloudy.
1	1-4 st.	Fair.	2-4 ci.-cum., 1-4 st.	Cloudy.	0	Clear.	0	Clear.	1-4 ci.-cum., 1-4 st.	Cloudy.
2	1-4 st.	Fair.	2-4 cum.	Fair.	Ci.	Clear.	0	Clear.	2-4 cum., 1-4 st.	Cloudy.
3	1-4 st.	Fair.	2-4 cum.	Fair.	0	Clear.	0	Clear.	2-4 cum.	Cloudy.
4	1-4 st.	Fair.	2-4 cum.	Fair.	0	Clear.	0	Clear.	2-4 cum., 1-4 st.	Cloudy.
5	1-4 st.	Fair.	0	Clear.	0	Clear.	1-4 st.	Fair.	3-4 cum.	Cloudy.
6	1-4 ci. and cum.	Fair.	0	Clear.	0	Clear.	1-4 st.	Fair.	2-4 cum.	Cloudy.
7	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 cum., 1-4 st.	Cloudy.
8	2-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Fair.	1-4 cum., 3-4 st.	Cloudy.
9	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	1-4 ci.-cum., 1-4 st.	Fair.	2-4 cum., 1-4 st.	Cloudy.
10	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	1-4 ci.-st., 1-4 st.	Fair.	2-4 cum., 1-4 st.	Cloudy.
11	1-4 ci., 1-4 st.	Fair.	0	Clear.	1-4 ci.	Fair.	2-4 ci. and ci.-cum., 1-4 st.	Cloudy.	2-4 cum., 2-4 st.	Lt. snow.
Noon.	2-4 ci. and ci.-cum., 1-4 st.	Cloudy.	0	Clear.	1-4 ci.	Fair.	2-4 ci.-cum., 2-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.
1h	2-4 ci. and ci.-cum., 1-4 st.	Cloudy.	0	Clear.	1-4 ci.	Fair.	1-4 ci.-cum., 2-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.
2	1-4 ci.-cum., 3-4 cum.	Cloudy.	0	Clear.	1-4 ci.	Fair.	1-4 ci.-cum., 1-4 cum., 1-4 st.	Cloudy.	3-4 cum., 1-4 st.	Lt. snow.
3	4-4 cum.	Cloudy.	0	Clear.	1-4 ci.	Fair.	2-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.
4	4-4 cum.	Cloudy.	0	Clear.	1-4 ci.	Fair.	1-4 ci. and ci.-cum., 2-4 st.	Cloudy.	4-4 st.	Lt. snow.
5	4-4 cum.	Cloudy.	0	Clear.	1-4 ci.	Fair.	1-4 ci. and ci.-cum., 2-4 st.	Cloudy.	4-4 st.	Lt. snow.
6	1-4 ci.-cum., 2-4 cum.	Cloudy.	0	Clear.	0	Clear.	1-4 ci. and ci.-cum., 2-4 st.	Cloudy.	4-4 st.	Lt. snow.
7	3-4 ci.-cum., 1-4 st.	Cloudy.	0	Clear.	0	Clear.	1-4 ci.-cum., 2-4 st.	Cloudy.	4-4 st.	Lt. snow.
8	1-4 ci.-cum., 1-4 st.	Fair.	0	Clear.	0	Clear.	2-4 ci.-cum., 1-4 st.	Cloudy.	2-4 cum., 2-4 st.	Lt. snow.
9	1-4 st.	Fair.	0	Clear.	0	Clear.	1-4 ci.-cum., 1-4 st.	Fair.	3-4 cum., 1-4 st.	Lt. snow.
10	1-4 ci.-cum., 1-4 st.	Cloudy.	0	Clear.	0	Clear.	1-4 ci.-cum., 2-4 st.	Cloudy.	4-4 st.	Lt. snow.
11	1-4 ci.-cum., 1-4 st.	Cloudy.	0	Clear.	0	Clear.	3-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.

Day.	MAY, 1872.									
	24.		25.		26.		27.		28.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	4-4 st.	Lt. snow.	1-4 ci., 3-4 cum.	Cloudy.	1-4 ci. and ci.-cum., 1-4 cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.	3-4 cum.	Cloudy.
1	4-4 st.	Lt. snow.	1-4 ci., 3-4 cum.	Cloudy.	1-4 ci. and ci.-cum., 1-4 cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 ci.-cum., 2-4 cum.	Cloudy.
2	2-4 cum., 2-4 st.	Lt. snow.	1-4 ci., 3-4 cum.	Cloudy.	1-4 ci., 2-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 cum.	Cloudy.
3	4-4 st.	Cloudy.	1-4 ci., 3-4 cum.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 cum.	Cloudy.
4	2-4 cum., 2-4 st.	Cloudy.	1-4 ci., 3-4 cum.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 cum.	Cloudy.
5	4-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 cum.	Cloudy.
6	4-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 ci.-cum. and cum.	Fair.
7	4-4 st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 cum.	Fair.
8	2-4 cum., 2-4 st.	Cloudy.	1-4 cum., 2-4 st.	Cloudy.	1-4 cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 cum.	Fair.
9	3-4 cum., 1-4 st.	Cloudy.	3-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 cum.	Fair.
10	4-4 st.	Cloudy.	1-4 cum., 2-4 st.	Cloudy.	1-4 cum., 2-4 st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	3-4 cum.	Cloudy.
11	3-4 cum., 1-4 st.	Cloudy.	1-4 ci., 2-4 cum.	Cloudy.	1-4 ci., 1-4 st., 2-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Lt. snow.	2-4 cum.	Fair.
Noon.	1-4 ci., 2-4 cum.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	1-4 ci., 2-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Lt. snow.	1-4 cum., ci. cum.	Fair.
1h	1-4 ci. and ci.-cum., 2-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	1-4 ci., 2-4 cum.	Cloudy.	1-4 cum., 2-4 st.	Cloudy.	2-4 cum.	Fair.
2	3-4 cum.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	1-4 ci., 2-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	2-4 cum.	Fair.
3	2-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	1-4 ci., 3-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Lt. snow.	2-4 cum.	Fair.
4	1-4 st., 2-4 cum.	Cloudy.	1-4 ci.-cum., 2-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	2-4 ci.-cum., 1-4 st.	Cloudy.	2-4 cum.	Fair.
5	1-4 cum.-st., 2-4 st.	Cloudy.	2-4 ci.-cum., 2-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	2-4 ci.-cum., 2-4 st.	Cloudy.	1-4 cum.	Fair.
6	1-4 ci.-cum., 3-4 cum.	Cloudy.	1-4 ci., 2-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	0	Clear.
7	1-4 ci.-cum., 3-4 cum.	Cloudy.	2-4 ci., 2-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	4-4 cum.	Cloudy.	1-4 ci.	Fair.
8	1-4 ci.-cum., 2-4 cum.	Cloudy.	1-4 ci.-cum., 2-4 cum.	Cloudy.	4-4 st.	Lt. snow.	4-4 cum.	Cloudy.	1-4 ci.	Fair.
9	2-4 ci., 2-4 cum.	Cloudy.	2-4 ci. and ci.-cum., 2-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	1-4 ci.-cum., 3-4 st.	Cloudy.	0	Clear.
10	1-4 ci., 1-4 cum., 1-4 st.	Cloudy.	1-4 ci., 2-4 cum.	Cloudy.	4-4 st.	Cloudy.	1-4 ci.-cum., 3-4 cum.	Cloudy.	0	Clear.
11	1-4 ci., 1-4 cum., 1-4 st.	Cloudy.	1-4 ci., 2-4 cum.	Cloudy.	4-4 st.	Cloudy.	1-4 ci.-cum., 2-4 cum.	Cloudy.	0	Clear.

Day.	MAY, 1872.								JUNE, 1872.	
	29.		30.		31.		1.		2.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	0	Clear.	1-4 ci.	Fair.	1-4 ci.	Fair.	1-4 cum., 2-4 st.	Cloudy.	3-4 st.	Cloudy.
1	0	Clear.	1-4 ci.	Fair.	1-4 ci.	Fair.	3-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.
2	0	Clear.	1-4 ci.	Fair.	1-4 ci.	Fair.	1-4 ci.-cum., 2-4 st.	Cloudy.	3-4 st.	Cloudy.
3	0	Clear.	1-4 ci.	Fair.	1-4 ci.	Fair.	2-4 cum., 2-4 st.	Cloudy.	Cum.-st., 3-4 st.	Cloudy.
4	0	Clear.	Ci.	Clear.	1-4 ci.	Fair.	1-4 cum., 3-4 st.	Cloudy.	4-4 st.	Cloudy.
5	0	Clear.	0	Clear.	1-4 st.	Fair.	4-4 st.	Cloudy.	1-4 ci.-cum., 3-4 st.	Cloudy.
6	0	Clear.	St.	Clear.	1-4 ci.	Fair.	4-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.
7	0	Clear.	0	Clear.	1-4 st.	Fair.	4-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.
8	0	Clear.	0	Clear.	1-4 ci., 1-4 st.	Fair.	4-4 st.	Cloudy.	1-4 ci.-cum., 2-4 st.	Cloudy.
9	0	Clear.	St.	Clear.	1-4 ci., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 ci.-cum., 2-4 st.	Cloudy.
10	0	Clear.	1-4 st.	Fair.	2-4 ci., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 ci.-cum., 2-4 st.	Cloudy.
11	0	Clear.	1-4 ci.	Fair.	2-4 ci., 1-4 st.	Cloudy.	1-4 cum., 3-4 st.	Lt. snow.	1-4 ci.-cum., 3-4 cum.	Cloudy.
Noon.	0	Clear.	1-4 ci.	Fair.	1-4 ci., 1-4 cum.	Fair.	1-4 cum., 3-4 st.	Lt. snow.	1-4 ci.-cum., 2-4 cum.	Cloudy.
1h	0	Clear.	1-4 ci.	Fair.	2-4 cum., 1-4 st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	1-4 ci.-cum., 2-4 cum.	Cloudy.
2	0	Clear.	Ci.	Clear.	1-4 ci., 2-4 cum.	Cloudy.	1-4 ci. and cum., 3-4 st.	Cloudy.	1-4 ci.-cum., 1-4 cum.	Fair.
3	1-4 st.	Fair.	1-4 ci.	Fair.	1-4 ci., 1-4 cum.	Fair.	1-4 cum., 3-4 st.	Cloudy.	1-4 ci.-cum., 1-4 cum.	Fair.
4	1-4 ci. and ci.-cum.	Fair.	Ci.	Clear.	1-4 ci., 1-4 st.	Fair.	3-4 cum.	Cloudy.	1-4 ci.-cum., 1-4 cum.	Fair.
5	1-4 ci. and ci.-cum.	Fair.	0	Clear.	2-4 ci.-cum., 1-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	1-4 ci.-cum., 1-4 cum.	Fair.
6	1-4 ci. and ci.-st.	Fair.	Ci.	Clear.	2-4 ci. and ci.-cum., 1-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	1-4 ci.-cum.	Fair.
7	1-4 ci.	Fair.	1-4 ci.	Fair.	1-4 ci.-cum., 2-4 cum.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	1-4 ci.-cum.	Fair.
8	1-4 ci.	Fair.	1-4 ci.	Fair.	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	Ci.	Clear.
9	1-4 ci.	Fair.	1-4 ci.	Fair.	3-4 cum., 1-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	Ci.	Clear.
10	1-4 ci.	Fair.	1-4 ci.	Fair.	3-4 cum.	Cloudy.	2-4 cur., 2-4 st.	Cloudy.	1-4 ci. and st.	Fair.
11	1-4 ci.	Fair.	1-4 ci.	Fair.	1-4 cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 ci. and st.	Fair.

Day.	JUNE, 1872.									
	3.		4.		5.		6.		7.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	1-4 ci. and st.	Fair.	1-4 ci.	Fair.	Ci.	Clear.	1-4 ci.-cum., 1-4 st.	Fair.	1-4 ci., 1-4 ci. cum.	Fair.
1	1-4 ci.-cum. and st.	Fair.	1-4 ci., 1-4 st.	Fair.	Ci.	Clear.	1-4 ci.-cum., 1-4 st.	Fair.	3-4 ci.-cum.	Cloudy.
2	1-4 ci.-cum. and st.	Fair.	1-4 ci.	Fair.	Ci.	Clear.	1-4 st.	Fair.	3-4 cum.	Cloudy.
3	1-4 cum.	Fair.	1-4 ci., 1-4 st.	Fair.	0	Clear.	1-4 ci.-cum., 1-4 st.	Fair.	3-4 cum.	Cloudy.
4	1-4 cum.-st.	Fair.	1-4 ci., 1-4 st.	Fair.	Ci.	Clear.	2-4 st.	Fair.	3-4 cum.	Cloudy.
5	1-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	2-4 st.	Fair.	3-4 cum.	Cloudy.
6	1-4 cum.	Fair.	1-4 st.	Fair.	Ci.	Clear.	1-4 st.	Fair.	3-4 ci. cum.	Cloudy.
7	St.	Clear.	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	2-4 cum. and ci. cum., 1-4 st.	Cloudy.
8	0	Clear.	0	Clear.	0	Clear.	1-4 st.	Fair.	3-4 ci. cum. and cum.	Cloudy.
9	0	Clear.	0	Clear.	Ci.	Clear.	1-4 st.	Fair.	3-4 ci. cum. and cum., 1-4 st.	Cloudy.
10	1-4 st.	Fair.	St.	Clear.	St.	Clear.	Ci.-cum., 1-4 st.	Fair.	3-4 ci. cum. and cum., 1-4 st.	Cloudy.
11	1-4 ci.	Fair.	1-4 ci.	Fair.	St.	Clear.	1-4 ci. & ci.-st., 1-4 st.	Fair.	2-4 ci. cum., 1-4 st.	Cloudy.
Noon.	1-4 ci.	Fair.	1-4 ci.	Fair.	1-4 ci. and cum.	Fair.	1-4 ci., 1-4 st.	Fair.	2-4 ci. cum., 1-4 st.	Cloudy.
1^h	1-4 ci.	Fair.	0	Clear.	1-4 ci. and st.	Fair.	1-4 ci., 1-4 st.	Fair.	2-4 ci.-cum., 1-4 st.	Cloudy.
2	1-4 ci.	Fair.	0	Clear.	1-4 ci. and ci.-cum.	Fair.	1-4 ci. & ci.-st., 1-4 st.	Fair.	2-4 ci. cum., 1-4 st.	Cloudy.
3	1-4 ci.	Fair.	0	Clear.	2-4 ci.	Fair.	1-4 ci., 1-4 st.	Fair.	2-4 ci.-cum., 1-4 st.	Cloudy.
4	1-4 ci.	Fair.	0	Clear.	1-4 ci.	Fair.	1-4 ci., 1-4 st.	Fair.	1-4 ci. cum., 2-4 cum.	Cloudy.
5	1-4 ci.	Fair.	0	Clear.	1-4 ci.	Fair.	1-4 ci., 1-4 st.	Fair.	4-4 cum.	Cloudy.
6	1-4 ci. and cum.	Fair.	Ci.	Clear.	1-4 cum. and cum.-st.	Fair.	1-4 ci., 1-4 ci.-st., 1-4 st.	Cloudy.	1-4 ci. and ci.-cum., 2-4 cum.	Cloudy.
7	1-4 ci., 1-4 ci.-cum.	Fair.	1-4 ci.	Fair.	1-4 cum.	Fair.	2-4 cum., 1-4 st.	Cloudy.	1-4 ci., 1-4 cum., 1-4 st.	Cloudy.
8	1-4 ci., 1-4 ci.-cum.	Fair.	1-4 ci.	Fair.	1-4 cum.	Fair.	1-4 ci.-cum., 1-4 st.	Fair.	4-4 cum.	Cloudy.
9	1-4 ci. and ci.-cum., 1-4 cum.	Fair.	Ci.	Clear.	2-4 cum.	Fair.	3-4 ci.-cum. and cum.	Cloudy.	4-4 cum.	Cloudy.
10	1-4 ci., 1-4 ci.-cum.	Fair.	Ci.	Clear.	1-4 ci. and cum.	Fair.	1-4 ci. and cum.	Fair.	2-4 cum., 2-4 st.	Cloudy.
11	1-4 ci., 1-4 cum.	Fair.	Ci.	Clear.	1-4 ci.-cum., 1-4 st.	Fair.	1-4 ci., 1-4 cum.	Fair.	2-4 cum., 2-4 st.	Cloudy.

Day.	JUNE, 1872.									
	8.		9.		10.		11.		12.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	1-4 ci., 3-4 cum.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 cum.	Cloudy.
1	1-4 ci., 2-4 cum. and cum.-st.	Cloudy.	2-4 ci.	Fair.	2-4 ci., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 ci.-cum., 2-4 cum.	Cloudy.
2	1-4 ci. and ci.-st., 1-4 cum.	Fair.	2-4 ci.	Fair.	2-4 ci.	Fair.	4-4 st.	Lt. snow.	1-4 ci., 1-4 cum.	Fair.
3	1-4 cum. and st.	Fair.	2-4 ci. and cum.	Fair.	2-4 ci.	Fair.	4-4 st.	Lt. snow.	1-4 ci., 1-4 cum.	Fair.
4	2-4 ci. and ci.-st.	Fair.	2-4 ci. and cum.	Fair.	2-4 ci.	Fair.	4-4 st.	Lt. snow.	2-4 cum.	Fair.
5	3-4 ci.-st.	Cloudy.	1-4 ci. and cum.	Fair.	2-4 ci.	Fair.	4-4 st.	Lt. snow.	1-4 ci., 1-4 cum.	Fair.
6	1-4 ci. and cum., 2-4 st.	Cloudy.	1-4 cum.	Fair.	2-4 ci.	Fair.	4-4 st.	Lt. snow.	1-4 ci. and st.	Fair.
7	3-4 cum., 1-4 st.	Cloudy.	1-4 cum. and ci.	Fair.	1-4 ci., 3-4 cum.	Cloudy.	4-4 st.	Lt. snow.	1-4 ci. and st.	Fair.
8	4-4 cum.	Cloudy.	2-4 cum.	Fair.	1-4 ci., 2-4 cum.	Cloudy.	1-4 cum., 3-4 st.	Lt. snow.	1-4 ci. and st.	Fair.
9	3-4 cum., 1-4 st.	Cloudy.	3-4 cum.	Cloudy.	1-4 ci., 2-4 cum.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	1-4 ci. and cum.	Fair.
10	2-4 st.	Fair.	3-4 cum.	Cloudy.	1-4 ci., 1-4 cum.	Fair.	4-4 st.	Cloudy.	1-4 ci. and cum.	Fair.
11	1-4 st. and cum.	Fair.	3-4 cum.	Cloudy.	1-4 ci. and cum.	Fair.	4-4 st.	Cloudy.	1-4 ci. and cum.	Fair.
Noon.	1-4 ci., 1-4 st. and cum.	Fair.	1-4 cum.	Fair.	1-4 ci. and cum.	Fair.	2-4 cum., 2-4 st.	Cloudy.	1-4 ci. and st.	Fair.
1^h	2-4 ci. and ci.-st., 1-4 cum.	Cloudy.	1-4 cum.	Fair.	1-4 ci., 2-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Lt. snow.	1-4 ci. and st.	Fair.
2	2-4 ci., 2-4 st.	Cloudy.	1-4 cum.	Fair.	3-4 cum.	Cloudy.	4-4 st.	Lt. snow.	1-4 ci. and st.	Fair.
3	1-4 ci., 3-4 st.	Cloudy.	1-4 cum.	Fair.	4-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	1-4 ci. and st.	Fair.
4	4-4 st.	Cloudy.	1-4 ci. and ci.-cum.	Fair.	3-4 cum., 1-4 st.	Cloudy.	3-4 cum.	Cloudy.	1-4 ci. and st.	Fair.
5	1-4 ci., 3-4 cum. and st.	Cloudy.	1-4 ci. and ci.-cum.	Fair.	3-4 cum., 1-4 st.	Cloudy.	1-4 ci.-cum., 2-4 cum.	Cloudy.	1-4 ci., 1-4 st.	Fair.
6	2-4 ci., 2-4 cum. and st.	Cloudy.	1-4 ci.	Fair.	2-4 cum., 2-4 st.	Lt. snow.	1-4 ci.-cum., 2-4 cum.	Cloudy.	1-4 ci., 1-4 st.	Fair.
7	1-4 ci., 2-4 cum. and st.	Cloudy.	2-4 ci.	Fair.	4-4 st.	Cloudy.	1-4 ci.-cum., 2-4 cum.	Cloudy.	1-4 ci., 1-4 st.	Fair.
8	1-4 ci., 1-4 cum., 2-4 st.	Cloudy.	2-4 ci.	Fair.	1-4 cum., 3-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	1-4 ci., 1-4 st.	Fair.
9	2-4 cum., 2-4 st.	Cloudy.	1-4 ci. and cum.	Fair.	4-4 st.	Cloudy.	1-4 ci.-cum., 3-4 cum.	Cloudy.	2-4 ci.-cum. and cum., 1-4 st.	Cloudy.
10	4-4 st.	Lt. snow.	2-4 ci., 1-4 cum.	Cloudy.	4-4 st.	Cloudy.	4-4 cum.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.
11	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 ci.-cum., 2-4 cum.	Cloudy.	3-4 cum.	Cloudy.

Day.	JUNE, 1872.									
	13.		14.		15.		16.		17.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	3-4 cum.	Cloudy.	1-4 ci., 3-4 cum.	Cloudy.	3-4 st., 1-4 cum.	Cloudy.	0	Clear.	0	Clear.
1	3-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	0	Clear.	0	Clear.
2	3-4 cum.	Cloudy.	4-4 st.	Cloudy.	1-4 cum., 2-4 st.	Cloudy.	0	Clear.	0	Clear.
3	3-4 cum.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	0	Clear.	0	Clear.
4	3-4 cum.	Cloudy.	4-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	0	Clear.	1-4 ci. and cum.	Fair.
5	3-4 cum.	Cloudy.	4-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	0	Clear.	1-4 ci. and cum.	Fair.
6	3-4 cum.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	4-4 cum.	Cloudy.	0	Clear.	1-4 ci. and cum.	Fair.
7	3-4 cum.	Cloudy.	3-4 cum.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	0	Clear.	1-4 ci., 1-4 cum.	Fair.
8	2-4 cum.	Fair.	3-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	0	Clear.	2-4 ci., 1-4 cum. and st.	Cloudy.
9	2-4 ci. and cum.	Fair.	3-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	0	Clear.	1-4 ci. and cum.	Fair.
10	Ci. and st.	Clear.	1-4 ci., 2-4 cum.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	0	Clear.	1-4 ci., 2-4 cum.	Cloudy.
11	Ci. and st.	Clear.	2-4 ci., 1-4 cum.	Cloudy.	1-4 ci., 1-4 cum., 1-4 st.	Cloudy.	0	Clear.	1-4 ci., 2-4 cum.	Cloudy.
Noon.	Ci. and st.	Clear.	1-4 ci., 1-4 st., 1-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	0	Clear.	1-4 ci. and ci.-cum., 3-4 cum.	Cloudy.
1^h	1-4 cum. and cum.-st.	Fair.	1-4 ci. and ci.-cum., 2-4 cum.	Cloudy.	1-4 cum., 2-4 st.	Cloudy.	0	Clear.	2-4 ci.-cum., 1-4 st.	Cloudy.
2	1-4 cum. and cum.-st.	Fair.	1-4 st., 2-4 cum.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	0	Clear.	2-4 ci.-cum., 1-4 st.	Cloudy.
3	1-4 cum. and cum.-st.	Fair.	1-4 st., 3-4 cum.	Cloudy.	1-4 st., 1-4 cum.	Fair.	0	Clear.	2-4 ci.-cum., 1-4 st.	Cloudy.
4	Ci., 1-4 cum. and cum.-st.	Fair.	1-4 st., 3-4 cum.	Cloudy.	1-4 ci. and ci.-cum., 1-4 cum. and st.	Fair.	0	Clear.	1-4 ci. and ci.-cum., 1-4 cum.	Fair.
5	1-4 cum. and st.	Fair.	1-4 st., 3-4 cum.	Cloudy.	1-4 cum. and st.	Fair.	0	Clear.	1-4 ci. and ci.-cum., 1-4 cum.	Fair.
6	1-4 cum. and st.	Fair.	1-4 st., 3-4 cum.	Cloudy.	1-4 cum. and st.	Fair.	0	Clear.	1-4 ci. and ci.-cum., 1-4 cum.	Fair.
7	1-4 cum. and st.	Fair.	2-4 cum., 2-4 st.	Cloudy.	1-4 cum. and st.	Fair.	0	Clear.	2-4 ci., 1-4 cum. st.	Cloudy.
8	1-4 ci. and ci.-cum., 1-4 cum. and st.	Fair.	2-4 cum., 2-4 st.	Cloudy.	0	Clear.	0	Clear.	2-4 ci., 1-4 cum. st.	Cloudy.
9	1-4 ci. and ci.-cum., 1-4 cum. and st.	Fair.	2-4 cum., 2-4 st.	Cloudy.	0	Clear.	0	Clear.	1-4 ci., 1-4 st., 2-4 cum.	Cloudy.
10	2-4 cum., 1-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	0	Clear.	0	Clear.	1-4 cum.	Fair.
11	2-4 cum., 1-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	0	Clear.	0	Clear.	3-4 st.	Cloudy.

Day.	JUNE, 1872.									
	18.		19.		20.		21.		22.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	1-4 cum., 3-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 ci.-cum., 1-4 cum.	Cloudy.	1-4 ci., 2-4 st.	Cloudy.
1	4-4 st.	Cloudy.	1-4 st., 3-4 cum.	Cloudy.	4-4 st.	Cloudy.	2-4 ci.-cum., 2-4 cum. and st.	Cloudy.	2-4 ci., 1-4 st.	Cloudy.
2	4-4 st.	Lt. snow.	1-4 st., 3-4 cum.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	2-4 ci., 1-4 st.	Cloudy.
3	4-4 st.	Lt. snow.	1-4 st., 3-4 cum.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	1-4 ci., 1-4 cum. and st.	Fair.
4	4-4 st.	Lt. snow.	1-4 st., 3-4 cum.	Cloudy.	1-4 cum., 1-4 ci., 1-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	3-4 ci. and ci.-cum., 1-4 st.	Cloudy.
5	1-4 cum., 3-4 st.	Lt. snow.	1-4 st., 3-4 cum.	Cloudy.	3-4 ci.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	1-4 ci., 3-4 cum., 1-4 st.	Cloudy.
6	1-4 cum., 3-4 st.	Lt. snow.	1-4 st., 3-4 cum.	Cloudy.	3-4 ci.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	1-4 ci., 2-4 cum.	Cloudy.
7	2-4 cum., 2-4 st.	Cloudy.	1-4 st., 3-4 cum.	Cloudy.	1-4 cum., 2-4 ci.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	1-4 ci., 1-4 cum.	Fair.
8	1-4 cum., 3-4 st.	Cloudy.	1-4 st., 3-4 cum.	Cloudy.	1-4 ci., 2-4 cum.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	1-4 ci., 1-4 cum.	Fair.
9	1-4 cum., 3-4 st.	Cloudy.	Ci.-cum., 3-4 cum.	Cloudy.	1-4 ci., 3-4 cum.	Cloudy.	1-4 ci.-cum., 1-4 cum., 1-4 st.	Cloudy.	1-4 ci., 1-4 cum.	Fair.
10	1-4 cum., 3-4 st.	Cloudy.	3-4 cum.	Cloudy.	1-4 ci., 3-4 cum.	Cloudy.	3-4 ci.-cum., 1-4 st.	Cloudy.	1-4 ci., 1-4 cum.	Fair.
11	1-4 ci.-cum., 2-4 cum.	Cloudy.	1-4 ci., 2-4 cum.	Cloudy.	1-4 ci., 3-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	1-4 ci., 1-4 cum.	Fair.
Noon.	1-4 ci., 1-4 cum., 2-4 st.	Cloudy.	1-4 ci., 2-4 cum. and st.	Cloudy.	1-4 ci., 1-4 cum., 1-4 st.	Cloudy.	2-4 ci., 2-4 st.	Cloudy.	1-4 ci. and cum.	Fair.
1h	2-4 cum., 2-4 st.	Cloudy.	1-4 ci., 2-4 cum. and st.	Cloudy.	1-4 ci., 1-4 cum., 1-4 st.	Cloudy.	1-4 ci., 3-4 cum. and st.	Cloudy.	1-4 ci.	Fair.
2	2-4 cum., 2-4 st.	Cloudy.	3-4 cum.	Cloudy.	1-4 ci., 1-4 cum., 1-4 st.	Cloudy.	1-4 ci., 3-4 cum. and st.	Cloudy.	1-4 ci.	Fair.
3	1-4 ci., 2-4 cum. and st.	Cloudy.	2-4 ci.-cum., 1-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	2-4 ci., 2-4 cum. and st.	Cloudy.	1-4 ci.	Fair.
4	1-4 ci., 2-4 cum. and st.	Cloudy.	1-4 ci. and ci.-cum., 2-4 cum. and st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	2-4 ci., 2-4 cum. and st.	Cloudy.	1-4 ci.	Fair.
5	1-4 cum., 3-4 st.	Cloudy.	2-4 ci. and ci.-cum., 1-4 st.	Cloudy.	1-4 ci. and ci.-cum., 2-4 cum. and st.	Cloudy.	2-4 ci., 2-4 cum. and st.	Cloudy.	1-4 ci.	Fair.
6	1-4 cum., 3-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	1-4 ci. and ci.-cum., 2-4 cum. and st.	Cloudy.	....	....	1-4 ci. and st.	Fair.
7	4-4 st.	Cloudy.	1-4 ci.-cum., 3-4 st.	Cloudy.	3-4 cum.	Cloudy.	....	....	1-4 ci. and st.	Fair.
8	1-4 ci., 3-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 cum.	Cloudy.	....	....	Ci.	Clear.
9	1-4 ci., 3-4 st.	Cloudy.	1-4 ci.-cum., 3-4 st.	Cloudy.	3-4 cum.	Cloudy.	....	....	Ci.	Clear.
10	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 ci. and ci.-cum., 2-4 cum.	Cloudy.	....	....	1-4 ci.	Fair.
11	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 ci. and ci.-cum., 2-4 cum.	Cloudy.	2-4 ci., 1-4 st.	Fair.	1-4 ci.	Fair.

Day.	JUNE, 1872.									
	23.		24.		25.		26.		27.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	1-4 ci.	Fair.	Ci.	Clear.	2-4 ci.-cum.	Fair.	1-4 ci. and ci.-cum., 1-4 cum.	Fair.	0	Clear.
1	1-4 ci.	Fair.	0	Clear.	1-4 ci.-cum., 3-4 cum.	Cloudy.	1-4 cum.	Fair.	0	Clear.
2	1-4 ci. and st.	Fair.	0	Clear.	2-4 cum., 1-4 ci.	Cloudy.	1-4 cum.	Fair.	0	Clear.
3	1-4 ci.	Fair.	Ci.	Clear.	1-4 ci., 1-4 ci.-cum., 2-4 cum.	Cloudy.	1-4 cum.	Fair.	0	Clear.
4	1-4 ci.	Fair.	Ci.	Clear.	4-4 cum.	Cloudy.	2-4 ci., 1-4 cum.	Cloudy.	0	Clear.
5	1-4 ci.	Fair.	Ci.	Clear.	4-4 cum.	Cloudy.	3-4 ci., 1 4 cum.	Cloudy.	0	Clear.
6	Ci.	Clear.	Ci.-st.	Clear.	4-4 cum.	Cloudy.	1-4 ci., 1-4 st.	Fair.	0	Clear.
7	1-4 ci. and cum.	Fair.	Ci.-st.	Clear.	4-4 cum.	Cloudy.	2-4 ci., 2-4 cum.	Cloudy.	0	Clear.
8	1-4 ci.-cum., 2-4 cum.	Cloudy.	Ci.-st.	Clear.	4-4 cum.	Cloudy.	4-4 cum.	Cloudy.	Ci.	Clear.
9	3-4 cum.	Cloudy.	0	Clear.	4-4 cum.	Cloudy.	1-4 ci., 2-4 cum.	Cloudy.	Ci.-cum.	Clear.
10	3-4 cum., 1-4 st.	Cloudy.	0	Clear.	4-4 cum.	Cloudy.	1-4 ci., 2-4 cum.	Cloudy.	Ci.-st.	Clear.
11	3-4 cum.	Cloudy.	0	Clear.	1-4 ci.-cum., 2-4 cum., 1-4 st.	Cloudy.	1-4 ci., 2-4 cum.	Cloudy.	1-4 ci.	Fair.
Noon.	1-4 ci.-cum. and cum.	Fair.	Ci.-st.	Clear.	4-4 cum.	Cloudy.	3-4 cum.	Cloudy.	2-4 ci.	Fair.
1^h	1-4 ci.-cum. and cum.	Fair.	Ci.	Clear.	4-4 cum.	Cloudy.	....	....	2-4 ci.	Fair.
2	1-4 ci. and cum.	Fair.	0	Clear.	3-4 cum.	Cloudy.	....	....	2-4 ci.	Fair.
3	1-4 ci. and cum.	Fair.	0	Clear.	3-4 cum.	Cloudy.	....	....	2-4 ci.	Fair.
4	1-4 ci.	Fair.	0	Clear.	3-4 cum.	Cloudy.	....	....	2-4 ci.	Fair.
5	1-4 ci.	Fair.	0	Clear.	3-4 cum.	Cloudy.	....	....	2-4 ci.	Fair.
6	1-4 ci.	Fair.	0	Clear.	3-4 cum.	Cloudy.	....	....	2-4 ci.	Fair.
7	Ci.	Clear.	0	Clear.	4-4 cum.	Cloudy.	....	....	2-4 ci. and ci.-cum.	Fair.
8	Ci.	Clear.	0	Clear.	1-4 ci.-cum., 2-4 cum.	Cloudy.	....	....	2-4 ci. and ci.-cum., 1-4 cum.	Cloudy.
9	0	Clear.	Ci.-cum.	Clear.	3-4 cum.	Cloudy.	....	....	2-4 ci. and ci.-cum., 1-4 cum.	Cloudy.
10	0	Clear.	0	Clear.	3-4 cum.	Cloudy.	....	....	1-4 ci. and ci.-cum., 1-4 cum.	Fair.
11	Ci.	Clear.	1-4 ci.-cum.	Fair.	2-4 ci.-cum. and cum.	Fair.	....	....	2-4 ci., 1-4 ci.-cum., 1-4 cum.	Cloudy.

Day.	JUNE, 1872.						JULY, 1872.			
	28.		29.		30.		1.		2.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	1-4 ci. and ci.-cum., 1-4 cum.	Fair.	1-4 ci.-st.	Fair.	0	Clear.	1-4 ci.	Fair.	0	Clear.
1	2-4 ci., 1-4 cum.	Cloudy.	1-4 ci., 3-4 st.	Fair.	St.	Clear.	1-4 ci. and st.	Fair.	0	Clear.
2	2-4 ci., 2-4 ci.-cum.	Cloudy.	Ci.-st.	Clear.	St.	Clear.	1-4 ci. and st.	Fair.	0	Clear.
3	2-4 ci., 1-4 cum.	Cloudy.	Ci. and ci.-st.	Clear.	St.	Clear.	2-4 ci.-st.	Fair.	0	Clear.
4	3-4 ci. and ci.-cum.	Cloudy.	Ci.-st.	Clear.	St.	Clear.	2-4 ci.-st.	Fair.	0	Clear.
5	1-4 ci., 1-4 cum.	Fair.	Ci. and st.	Clear.	St.	Clear.	2-4 ci.-st.	Fair.	0	Clear.
6	1-4 ci., 1-4 ci.-st.	Fair.	St.	Clear.	St.	Clear.	1-4 ci.-st.	Fair.	0	Clear.
7	3-4 ci., 1-4 st. and ci.-st.	Cloudy.	St.	Clear.	Ci.-st.	Clear.	St.	Clear.	0	Clear.
8	2-4 ci., 1-4 cum.	Cloudy.	St.	Clear.	1-4 ci.-st.	Fair.	1-4 st.	Fair.	0	Clear.
9	1-4 ci.-st., 3-4 st.	Cloudy.	St.	Clear.	Ci. and st.	Clear.	1-4 ci.	Fair.	0	Clear.
10	1-4 ci. and ci.-st., 3-4 st.	Cloudy.	0	Clear.	Ci. and st.	Clear.	1-4 ci.	Fair.	0	Clear.
11	1-4 ci. and ci.-st., 3-4 st.	Cloudy.	0	Clear.	Cum. and st.	Clear.	0	Clear.	0	Clear.
Noon.	1-4 ci. and ci.-st., 2-4 st.	Cloudy.	0	Clear.	St.	Clear.	0	Clear.	0	Clear.
1h	1-4 ci. and ci.-st., 2-4 st.	Cloudy.	0	Clear.	St.	Clear.	0	Clear.	0	Clear.
2	1-4 ci. and ci.-st., 2-4 st.	Cloudy.	0	Clear.	1-4 cum. and st.	Fair.	0	Clear.	0	Clear.
3	4-4 st.	Cloudy.	0	Clear.	1-4 cum. and st.	Fair.	0	Clear.	0	Clear.
4	4-4 st.	Cloudy.	0	Clear.	0	Clear.	0	Clear.	0	Clear.
5	4-4 st.	Cloudy.	0	Clear.	0	Clear.	0	Clear.	0	Clear.
6	3-4 st.	Cloudy.	Cum.	Clear.	1-4 ci.	Fair.	0	Clear.	0	Clear.
7	2-4 st.	Fair.	St.	Clear.	1-4 ci.	Fair.	0	Clear.	0	Clear.
8	1-4 ci., 1-4 st.	Fair.	St.	Clear.	1-4 ci.	Fair.	0	Clear.	0	Clear.
9	1-4 ci. and cum.	Fair.	St.	Clear.	Ci.	Clear.	0	Clear.	0	Clear.
10	1-4 ci. and st.	Fair.	St.	Clear.	0	Clear.	0	Clear.	0	Clear.
11	1-4 ci., 1-4 st.	Fair.	St.	Clear.	0	Clear.	0	Clear.	0	Clear.

Day.	JULY, 1872.									
	3.		4.		5.		6.		7.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	0	Clear.								
1	0	Clear.								
2	0	Clear.								
3	0	Clear.								
4	0	Clear.								
5	0	Clear.								
6	0	Clear.								
7	0	Clear.								
8	0	Clear.								
9	St.	Clear.								
10	St.	Clear.								
11	St.	Clear.								
Noon.	St.	Clear.								
1h	St.	Clear.								
2	0	Clear.								
3	0	Clear.								
4	0	Clear.								
5	0	Clear.								
6	0	Clear.								
7	0	Clear.								
8	0	Clear.								
9	0	Clear.								
10	0	Clear.								
11	0	Clear.								

Day.	JULY, 1872.									
	8.		9.		10.		11.		12.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	....	....	....	....	....	....	....	....	1-4 cum., 3-4 st.	Cloudy.
1	....	....	....	....	....	....	....	....	1-4 cum., 3-4 st.	Cloudy.
2	....	....	....	....	....	....	....	....	1-4 cum., 3-4 st.	Cloudy.
3	....	....	....	....	....	....	....	....	1-4 cum., 2-4 st.	Cloudy.
4	....	....	....	....	....	....	....	....	2-4 cum. and st.	Fair.
5	....	....	....	....	....	....	....	....	1-4 ci. and cum.	Fair.
6	....	....	....	....	....	....	....	....	1-4 ci. and cum.	Fair.
7	....	....	....	....	....	....	....	....	1-4 ci. and cum.	Fair.
8	....	....	....	....	....	....	....	....	Ci. and cum.	Clear.
9	....	....	....	....	....	....	....	....	Ci. and cum.	Clear.
10	....	....	....	....	....	....	....	....	Ci. and cum.	Clear.
11	....	....	....	....	....	....	....	....	Ci. and cum.	Clear.
Noon.	....	....	....	....	....	....	....	....	1-4 cum.	Fair.
1^h	....	....	....	....	....	....	....	....	1-4 cum. and st.	Fair.
2	....	....	....	....	....	....	....	....	1-4 ci.-cum., 1-4 cum. and st.	Fair.
3	....	....	....	....	....	....	....	....	1-4 ci.-cum., 1-4 cum. and st.	Fair.
4	....	....	....	....	....	....	....	....	1-4 cum. and st.	Fair.
5	....	....	....	....	....	....	....	....	Ci., 1-4 cum. and st.	Fair.
6	....	....	....	....	....	....	....	....	Ci.-cum., 1-4 cum. and st.	Fair.
7	....	....	....	....	....	....	....	....	1-4 cum. and st.	Fair.
8	....	....	....	....	....	....	....	....	1-4 cum. and st.	Fair.
9	....	....	....	....	....	....	....	....	Ci.-cum., 1-4 cum. and st.	Fair.
10	....	....	....	....	....	....	....	....	3-4 cum. and st.	Cloudy.
11	....	....	....	....	....	....	....	....	3-4 cum. and st.	Cloudy.

Day.	JULY, 1872.									
	13.		14.		15.		16.		17.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	4-4 cum. and st.	Cloudy.	3-4 cum. and st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	3-4 st. and cum.	Cloudy.	4-4 st.	Lt. rain.
1	4-4 cum. and st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	3-4 st. and cum.	Cloudy.	4-4 st.	Lt. rain.
2	4-4 cum. and st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Rain and snow.
3	4-4 cum. and st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Rain and snow.
4	4-4 cum. and st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. rain.	4-4 cum. and st.	Cloudy.	4-4 st.	Lt. snow.
5	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 cum., 3-4 st.	Cloudy.	4-4 cum.	Cloudy.	4-4 st.	Lt. snow.
6	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 cum., 3-4 st.	Cloudy.	4-4 cum.	Cloudy.	4-4 st.	Lt. snow.
7	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 cum., 3-4 st.	Cloudy.	4-4 cum.	Cloudy.	4-4 st.	Lt. snow.
8	1-4 ci., 2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	1-4 ci., 3-4 cum.	Cloudy.	4-4 st.	Cloudy.
9	Ci., 1-4 cum., 3-4 st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	2-4 st., 2-4 cum.	Cloudy.	4-4 st.	Cloudy.
10	1-4 ci., 2-4 cum.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	4-4 cum.	Cloudy.	1-4 ci., 3-4 cum. and st.	Cloudy.	4-4 st.	Cloudy.
11	Ci., 4-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	1-4 st., 3-4 cum.	Cloudy.	1-4 ci., 3-4 cum. and st.	Cloudy.	4-4 st.	Cloudy.
Noon.	1-4 st., 2-4 cum.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	1-4 ci. and ci.-cum., 2-4 cum. and st.	Cloudy.	4-4 st.	Cloudy.
1h	2-4 cum., 2-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	1-4 ci. and ci.-cum., 2-4 cum. and st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.
2	1-4 ci. and ci.-cum., 1-4 cum.	Cloudy.	3-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.
3	2-4 cum., 2-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	1-4 st., 3-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.
4	2-4 cum., 2-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	1-4 ci., 3-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.
5	1-4 ci. and ci.-cum., 2-4 cum.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.
6	2-4 cum., 1-4 st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	1-4 cum., 3-4 st.	Lt. rain.	1-4 cum., 3-4 st.	Cloudy.
7	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Rain.	2-4 cum., 2-4 st.	Cloudy.	4-4 st.	Lt. rain.	2-4 cum., 2-4 st.	Cloudy.
8	3-4 cum. and st.	Cloudy.	4-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	4-4 st.	Lt. rain.	3-4 cum., 1-4 st.	Cloudy.
9	3-4 cum., 1-4 st.	Cloudy.	2-4 cum. and ci., 1-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	4-4 st.	Lt. rain.	2-4 cum., 2-4 st.	Cloudy.
10	2-4 cum. and st.	Fair.	1-4 cum., 2-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	4-4 st.	Lt. rain.	2-4 cum., 2-4 st.	Cloudy.
11	3-4 cum. and st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Lt. rain.	4-4 st. and cum.	Cloudy.

Day.	JULY, 1872.									
	18.		19.		20.		21.		22.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 cum. and st.	Fair.	2-4 cum. and ci.-cum., 1-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.
1	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 cum.	Fair.	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.
2	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 cum. and ci.-cum., 1-4 st.	Fair.	2-4 cum., 1-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.
3	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 cum. and ci.-cum., 1-4 st.	Fair.	Ci.-cum., 1-4 st.	Fair.	3-4 cum., 1-4 st.	Cloudy.
4	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 cum. and st.	Fair.	2-4 cum.-st.	Fair.	2-4 cum., 1-4 st.	Cloudy.
5	4-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.
	4-4 st.	Cloudy.	4-4 st. and cum.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	1-4 cum. and ci.-cum., 1-4 st.	Fair.
7	4-4 st.	Lt. rain.	4-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	1-4 st. and cum.	Fair.	1-4 cum. and ci.-cum., 1-4 st.	Fair.
8	4-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	Ci. and st.	Clear.	1-4 cum. and ci.-cum., 1-4 st.	Fair.
9	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	Ci. and st.	Clear.	2-4 ci.-cum., 2-4 cum. and st.	Cloudy.
10	4-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	Ci.	Clear.	1-4 ci., 3-4 ci.-cum.	Cloudy.
11	4-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	Ci.	Clear.	2-4 ci., 1-4 ci.-cum.	Cloudy.
Noon.	4-4 st.	Lt. rain.	1-4 cum., 3-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 ci.	Fair.	2-4 ci., 1-4 ci.-cum.	Cloudy.
1h	4-4 st. and cum.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	4-4 st.	Lt. rain.	2-4 ci.	Fair.	2-4 ci., 1-4 ci.-cum.	Cloudy.
2	1-4 cum., 3-4 st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	4-4 st.	Lt. rain.	2-4 ci.	Fair.	1-4 ci., 2-4 cum.-st.	Cloudy.
3	1-4 cum., 3-4 st.	Cloudy.	1-4 ci. and ci.-cum., 2-4 cum. and st.	Cloudy.	4-4 st.	Cloudy.	1-4 ci., 1-4 cum. and st.	Fair.	1-4 ci., 2-4 cum.-st.	Cloudy.
4	1-4 cum., 3-4 st.	Cloudy.	1-4 ci. and ci.-cum., 2-4 cum. and st.	Cloudy.	4-4 st.	Cloudy.	1-4 ci., 1-4 cum.	Fair.	1-4 ci., 2-4 cum.-st.	Cloudy.
5	1-4 cum., 3-4 st.	Cloudy.	1-4 st., 3-4 cum.	Cloudy.	4-4 st.	Cloudy.	1-4 ci., 1-4 cum.	Fair.	1-4 ci. and ci.-cum., 1-4 cum.	Fair.
6	1-4 ci., 1-4 cum.-st., 2-4 st.	Cloudy.	3-4 cum.	Cloudy.	4-4 st.	Cloudy.	2-4 ci.-cum., 1-4 cum.-st.	Cloudy.	2-4 ci.-cum., 1-4 cum.	Cloudy.
7	1-4 ci., 1-4 cum.-st., 2-4 st.	Cloudy.	3-4 cum.	Cloudy.	1-4 ci.-cum., 3-4 st.	Cloudy.	2-4 ci.-cum., 1-4 cum.-st.	Cloudy.	4-4 cum.	Cloudy.
8	3-4 cum., 1-4 cum.-st.	Cloudy.	2-4 cum.	Fair.	1-4 ci.-cum., 2-4 st.	Cloudy.	2-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.
9	1-4 cum., 1-4 cum.-st., 2-4 st.	Cloudy.	2-4 cum.	Fair.	2-4 cum., 1-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.
10	4-4 st.	Cloudy.	1-4 cum.	Fair.	2-4 cum., 1-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.
11	4-4 st.	Cloudy.	1-4 cum. and st.	Fair.	1-4 ci.-cum., 2-4 cum.	Cloudy.	1-4 cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.

Day.	JULY, 1872.									
	23.		24.		25.		26.		27.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	4-4 st.	Lt. rain.	4-4 st.	Lt. rain.	3-4 cum.	Cloudy.	Ci.	Clear.	3-4 cum., 1-4 st.	Cloudy.
1	4-4 st.	Lt. rain.	4-4 st.	Lt. rain.	2-4 cum.	Fair.	Ci.	Clear.	4-4 st.	Cloudy.
2	4-4 st.	Cloudy.	4-4 st.	Rain.	2-4 cum.	Fair.	Ci.	Clear.	4-4 st.	Cloudy.
3	4-4 st.	Lt. rain.	4-4 st.	Rain.	1-4 cum. and ci.-cum., 1-4 st.	Cloudy.	Ci.	Clear.	2-4 cum., 2-4 st.	Cloudy.
4	4-4 st.	Lt. rain.	4 4 st.	Rain.	2-4 cum. and ci., 1-4 st.	Cloudy.	0	Clear.	4-4 st.	Cloudy.
5	4-4 st.	Cloudy.	4-4 st.	Rain.	1-4 cum. and ci., 1-4 st.	Cloudy.	Ci.	Clear.	4-4 st.	Cloudy.
6	4-4 st.	Lt. rain.	4-4 st.	Cloudy.	1-4 ci.-cum.	Fair.	Ci.-cum.	Clear.	2-4 cum., 2-4 st.	Cloudy.
7	2-4 cum., 2-4 st.	Lt. rain.	4-4 st.	Cloudy.	1-4 ci. and cum.	Fair.	0	Clear.	1-4 cum., 3-4 st.	Cloudy.
8	4-4 st.	Lt. rain.	4-4 st.	Cloudy.	0	Clear.	St. and ci.	Clear.	3-4 cum., 1-4 st.	Cloudy.
9	4-4 cum.	Cloudy.	4-4 st.	Lt. rain.	0	Clear.	St.	Clear.	1-4 cum. and st.	Fair.
10	2-4 cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	Cum.	Clear.	St.	Clear.	1-4 ci.-cum., 3-4 st.	Cloudy.
11	1-4 cum., 2-4 st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	Cum.	Clear.	Ci.-st.	Clear.	1-4 ci.-cum., 1-4 cum., 1-4 st.	Cloudy.
Noon.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 ci. and cum.	Fair.	0	Clear.	2-4 ci.-cum., 1-4 st.	Cloudy.
1h	4-4 st.	Lt. rain.	4-4 st.	Cloudy.	Cum.	Clear.	0	Clear.	1-4 ci.-cum., 1-4 cum.	Fair.
2	4-4 st.	Cloudy.	4-4 st.	Cloudy.	Ci.	Clear.	0	Clear.	2-4 ci.-cum.	Fair.
3	4-4 st.	Cloudy.	4-4 st.	Cloudy.	Cum.	Clear.	Ci.	Clear.	2-4 ci.-cum.	Fair.
4	4-4 st.	Lt. rain.	4-4 st.	Cloudy.	Cum.	Clear.	1-4 ci. and st.	Fair.	1-4 ci., 1-4 cum. and st.	Fair.
5	4-4 st.	Lt. rain.	4-4 st.	Cloudy.	Cum.	Clear.	1-4 ci. and st.	Fair.	1-4 ci., 1-4 cum. and st.	Fair.
6	4-4 st.	Cloudy.	4-4 st.	Cloudy.	Cum.	Clear.	1-4 ci. and st.	Fair.	2-4 ci., 1-4 cum.	Cloudy.
7	4-4 cum.	Cloudy.	4-4 st.	Cloudy.	0	Clear.	1-4 ci.-cum., 1-4 st.	Fair.	1-4 ci.	Fair.
8	4-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	St.	Clear.	2-4 cum. and ci.-cum., 1-4 st.	Cloudy.	1-4 ci. and st.	Fair.
9	4-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	0	Clear.	3-4 cum., 1-4 st.	Cloudy.	1-4 ci. and st.	Fair.
10	4-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	St.	Clear.	3-4 cum. and ci.-cum., 1-4 st.	Cloudy.	1-4 ci.	Fair.
11	4-4 st.	Cloudy.	3-4 cum.	Cloudy.	St.	Clear.	3-4 cum., 1-4 st.	Cloudy.	1-4 ci. and st.	Fair.

Day.	JULY, 1872.								AUGUST, 1872.	
	28.		29.		30.		31.		1.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	1-4 ci.	Fair.	1-4 cum.	Fair.	2-4 ci., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
1	1-4 ci.	Fair.	Ci. and cum.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
2	1-4 ci. and cum.	Fair.	Ci.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
3	1-4 ci.-cum., 1-4 cum.	Fair.	1-4 ci.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
4	1-4 ci.-cum., 1-4 cum.	Fair.	2-4 ci.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
5	1-4 ci.-cum., 1-4 cum.	Fair.	1-4 ci., 1-4 cum.	Fair.	1-4 cum., 3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
6	1-4 ci., 2-4 cum.	Cloudy.	1-4 ci., 1-4 cum.	Fair.	1-4 cum., 3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
7	1-4 ci. and ci.-cum., 2-4 cum. and st.	Cloudy.	1-4 ci. and cum.	Fair.	4-4 st.	Lt. rain.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
8	3-4 cum., 1-4 st.	Cloudy.	1-4 ci. and cum.	Fair.	4-4 st.	Lt. rain.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
9	3-4 cum., 1-4 st.	Cloudy.	Ci., 1-4 st. and cum.	Fair.	4-4 st.	Lt. rain.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
10	1-4 cum., 3-4 st.	Cloudy.	St. and cum.	Clear.	4-4 st.	Lt. rain.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
11	1-4 cum., 3-4 st.	Cloudy.	St.	Clear.	4-4 st.	Lt. rain.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
Noon.	3-4 cum. and st.	Cloudy.	Ci.	Clear.	4-4 st.	Rain.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
1h	2-4 ci.-cum., 2-4 cum. and st.	Cloudy.	Ci.	Clear.	4-4 st.	Rain.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
2	2-4 cum., 2-4 st.	Cloudy.	Ci.	Clear.	4-4 st.	Rain.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
3	2-4 cum., 2-4 st.	Cloudy.	1-4 ci.	Fair.	4-4 st.	Rain.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
4	3-4 cum., 1-4 st.	Cloudy.	1-4 ci.	Fair.	4-4 st.	Rain.	2-4 cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.
5	1-4 ci. and ci.-cum., 2-4 cum. and st.	Cloudy.	1-4 ci.	Fair.	4-4 st.	Lt. rain.	2-4 cum., 2-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.
6	1-4 ci., 3-4 cum. and st.	Cloudy.	1-4 ci.	Fair.	4-4 st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.
7	1-4 ci., 2-4 cum. and st.	Cloudy.	1-4 ci.	Fair.	4-4 st.	Lt. rain.	1-4 cum., 2-4 st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.
8	1-4 ci. and ci.-cum., 1-4 cum., 1-4 st.	Cloudy.	1-4 ci.	Fair.	4-4 st.	Lt. rain.	1-4 ci.-cum., 1-4 cum., 2-4 st.	Cloudy.	1-4 cum., 2-4 st.	Cloudy.
9	3-4 cum., 1-4 st.	Cloudy.	1-4 ci., 1-4 cum.	Cloudy.	4-4 st.	Cloudy.	1-4 ci.-cum., 2-4 cum. and st.	Cloudy.	1-4 ci.-cum., 1-4 cum., 2-4 st.	Cloudy.
10	3-4 cum., 1-4 st.	Cloudy.	4-4 cum. and st.	Cloudy.	4-4 st.	Cloudy.	Ci.-cum., 3-4 cum.	Cloudy.	1-4 ci.-cum., 2-4 cum. and st.	Cloudy.
11	Ci., 2-4 st. and cum.	Fair.	4-4 cum. and st.	Cloudy.	4-4 st.	Cloudy.	Ci.-cum., 3-4 cum.	Cloudy.	Ci.-cum., 2-4 cum., 2-4 st.	Cloudy.

Day.	AUGUST, 1872.									
	2.		3.		4.		5.		6.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	1-4 cum., 3-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	Ci.	Clear.	Ci.-st.	Clear.	4-4 cum.	Cloudy.
1	1-4 ci., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	Ci.	Clear.	1-4 ci.-cum. and st.	Fair.	3-4 cum.	Cloudy.
2	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Lt. rain.	Ci.	Clear.	1-4 ci.-cum. and st.	Fair.	3-4 cum.	Cloudy.
3	1-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Lt. rain.	Ci.	Clear.	1-4 cum.	Fair.	2-4 cum.	Fair.
4	2-4 ci.-cum., 1-4 cum. and st.	Cloudy.	4-4 st.	Lt. rain.	Ci.	Clear.	1-4 ci.-cum.	Fair.	2-4 cum.	Fair.
5	2-4 ci.-cum., 1-4 cum. and st.	Cloudy.	4-4 st.	Lt. rain.	Ci.	Clear.	2-4 cum.	Fair.	2-4 cum.	Fair.
6	1-4 ci.-cum., 2-4 cum. and st.	Cloudy.	4-4 st.	Lt. rain.	Ci.	Clear.	2-4 cum.	Fair.	3-4 cum.	Cloudy.
7	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Lt. rain.	Ci.	Clear.	2-4 cum.	Fair.	3-4 cum.	Cloudy.
8	2-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	Ci.	Clear.	1-4 ci.-st. and cum.	Fair.	3-4 cum., 1-4 st.	Cloudy.
9	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	Ci.-st.	Clear.	1-4 ci.-st. and cum.	Fair.	Ci.-cum., 1-4 cum.	Fair.
10	1-4 ci.-cum., 2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	Ci.	Clear.	1-4 ci.-st. and cum.	Fair.	1-4 cum. and st.	Fair.
11	1-4 ci.-cum., 2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	Ci.	Clear.	1-4 ci.-st. and cum.	Fair.	Ci., 1-4 st.	Fair.
Noon.	3-4 cum.	Cloudy.	4-4 st.	Cloudy.	0	Clear.	1-4 ci.-cum., 1-4 cum.	Fair.	Ci.	Clear.
1^h	2-4 cum.	Fair.	4-4 st.	Cloudy.	Ci.	Clear.	1-4 ci.-cum., 1-4 cum.	Fair.	Ci.	Clear.
2	3-4 cum.	Cloudy.	4-4 st.	Cloudy.	Ci.	Clear.	3-4 cum.	Cloudy.	0	Clear.
3	3-4 cum.	Cloudy.	4-4 st.	Cloudy.	Ci.	Clear.	1-4 ci., 2-4 cum.	Cloudy.	0	Clear.
4	2-4 cum.	Fair.	4-4 cum.	Fair.	Ci.	Clear.	2-4 ci., 1-4 st.	Cloudy.	Ci.	Clear.
5	2-4 cum., 1-4 st.	Cloudy.	2-4 ci.	Fair.	Ci.	Clear.	2-4 ci., 1-4 st.	Cloudy.	Ci.	Clear.
6	1-4 ci., 2-4 cum. and st.	Fair.	2-4 ci.	Fair.	Ci.	Clear.	2-4 ci., 1-4 st.	Cloudy.	Ci.	Clear.
7	1-4 ci.-cum., 2-4 cum. and st.	Cloudy.	2-4 ci.	Fair.	Ci.	Clear.	2-4 cum., 1-4 st.	Cloudy.	1-4 ci.	Clear.
8	Ci.-cum., 2-4 cum., 1-4 st.	Cloudy.	1-4 ci. and st.	Fair.	Ci.-st.	Clear.	2-4 cum., 1-4 st.	Cloudy.	1-4 ci.-st.	Fair.
9	3-4 cum., 1-4 st.	Cloudy.	St.	Clear.	Ci.	Clear.	2-4 cum., 1-4 st.	Cloudy.	1-4 cum.-st.	Fair.
10	3-4 cum., 1-4 st.	Cloudy.	Ci. and st.	Clear.	Ci.-st.	Clear.	1-4 cum., 1-4 st.	Fair.	2-4 ci. and cum.	Fair.
11	3-4 cum., 1-4 st.	Cloudy.	1-4 st.	Fair.	Ci.	Clear.	1-4 cum., 1-4 st.	Fair.	1-4 ci., 1-4 cum.	Fair.

Day.	AUGUST, 1872.									
	7.		8.		9.		10.		11.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	2-4 ci., 1-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	1-4 ci.-st.	Fair.	0	Clear.	0	Clear.
1	1-4 ci., 2-4 cum.	Cloudy.	4-4 st.	Cloudy.	1-4 ci.-cum.	Fair.	0	Clear.	0	Clear.
2	3-4 cum.	Cloudy.	4-4 st.	Cloudy.	Ci.-cum.	Clear.	0	Clear.	0	Clear.
3	4-4 cum.	Cloudy.	4-4 st.	Cloudy.	Ci.-cum.	Clear.	0	Clear.	0	Clear.
4	4-4 st.	Cloudy.	4-4 st.	Cloudy.	Ci.-cum.	Clear.	0	Clear.	0	Clear.
5	1-4 cum., 3-4 st.	Cloudy.	3-4 st.	Cloudy.	Ci.-cum.	Clear.	0	Clear.	0	Clear.
6	4-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	1-4 ci.-cum.	Fair.	0	Clear.	0	Clear.
7	1-4 cum., 3-4 st.	Cloudy.	1-4 cum., 2-4 st.	Cloudy.	1-4 ci.-cum.	Fair.	0	Clear.	0	Clear.
8	4-4 st.	Cloudy.	1-4 cum., 2-4 st.	Cloudy.	1-4 ci.-cum.	Fair.	0	Clear.	0	Clear.
9	1-4 cum., 3-4 st.	Cloudy.	1-4 cum., 2-4 st.	Cloudy.	1-4 ci.-cum.	Fair.	0	Clear.	0	Clear.
10	1-4 cum., 2-4 st.	Cloudy.	1-4 cum., 2-4 st.	Cloudy.	1-4 ci.-cum.	Fair.	0	Clear.	0	Clear.
11	3-4 cum., 1-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	1-4 ci.-cum.	Fair.	St.	Clear.	0	Clear.
Noon.	2-4 cum., 1-4 st.	Cloudy.	4-4 cum.	Cloudy.	Ci.-cum.	Clear.	0	Clear.	0	Clear.
1h	3-4 cum.	Cloudy.	4-4 cum.	Cloudy.	1-4 ci.-cum.	Fair.	0	Clear.	0	Clear.
2	3-4 cum.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	1-4 ci.-cum. and st.	Fair.	0	Clear.	0	Clear.
3	4-4 cum.	Cloudy.	4-4 cum.	Cloudy.	1-4 ci.-cum. and st.	Fair.	0	Clear.	0	Clear.
4	2-4 cum., 1-4 st.	Cloudy.	1-4 ci.-cum., 2-4 cum.	Cloudy.	1-4 ci.-cum. and st.	Fair.	0	Clear.	0	Clear.
5	2-4 cum., 1-4 st.	Cloudy.	1-4 ci.-cum., 2-4 cum.	Cloudy.	1-4 ci.-cum. and st.	Fair.	0	Clear.	0	Clear.
6	2-4 cum., 1-4 st.	Cloudy.	1-4 ci.-cum., 2-4 cum.	Cloudy.	St.	Clear.	0	Clear.	0	Clear.
7	3-4 cum.	Cloudy.	3-4 cum.	Cloudy.	Ci.-cum.	Clear.	0	Clear.	Ci.	Clear.
8	3-4 cum., 1-4 st.	Cloudy.	Ci.-cum., 3-4 cum.	Cloudy.	0	Clear.	0	Clear.	0	Clear.
9	2-4 cum., 1-4 st.	Cloudy.	1-4 cum., 1-4 st.	Fair.	0	Clear.	0	Clear.	0	Clear.
10	2-4 cum., 1-4 st.	Cloudy.	1-4 cum., 1-4 st.	Fair.	St.	Clear.	0	Clear.	St.	Clear.
11	2-4 cum., 1-4 st.	Cloudy.	1-4 cum., 1-4 st.	Fair.	St.	Clear.	0	Clear.	St.	Clear.

Day.	AUGUST, 1872.									
	12.		13.		14.		15.		16.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	1-4 ci.-st., st.	Fair.	St.	Clear.	2-4 cum., 1-4 st.	Cloudy.	1-4 st.	Fair.	1-4 cum., 1-4 st.	Fair.
1	1-4 ci.	Fair.	St.	Clear.	1-4 cum., 2-4 st.	Cloudy.	1-4 st.	Fair.	1-4 cum., 1-4 st.	Fair.
2	1-4 ci.	Fair.	St.	Clear.	1-4 cum., 2-4 st.	Cloudy.	1-4 cum., 1-4 st.	Fair.	Ci.-cum., 2-4 st.	Fair.
3	Ci.	Clear.	St.	Clear.	3-4 cum., 1-4 st.	Cloudy.	3-4 cum.	Cloudy.	1-4 cum., 1-4 st.	Fair.
4	Ci.	Clear.	St.	Clear.	4-4 cum.	Cloudy.	3-4 cum.	Cloudy.	1-4 cum., 1-4 st.	Fair.
5	0	Clear.	St.	Clear.	4-4 cum.	Cloudy.	1-4 ci., 2-4 cum.	Cloudy.	Ci.-st.	Clear.
6	0	Clear.	St.	Clear.	4-4 cum.	Cloudy.	4-4 cum.	Cloudy.	St.	Clear.
7	Ci.	Clear.	0	Clear.	4-4 cum.	Cloudy.	4-4 cum.	Cloudy.	St.	Clear.
8	Ci.	Clear.	St.	Clear.	4-4 cum.	Cloudy.	4-4 cum.	Cloudy.	St.	Clear.
9	Ci.	Clear.	1-4 st.	Fair.	3-4 cum., 1-4 st.	Cloudy.	4-4 cum.	Cloudy.	St.	Clear.
10	Ci.-st.	Clear.	1-4 ci.-st.	Fair.	4-4 cum.	Cloudy.	1-4 cum., 1-4 st.	Fair.	Ci.-cum., 1-4 st.	Fair.
11	Ci.-st.	Clear.	St.	Clear.	3-4 cum., 1-4 st.	Cloudy.	1-4 cum., 1-4 st.	Fair.	Ci.-cum., 1-4 st.	Fair.
Noon.	Ci.-st.	Clear.	1-4 ci.-st.	Fair.	4-4 cum.	Cloudy.	1-4 cum., 1-4 st.	Fair.	2-4 cum.	Fair.
1h	Ci.	Clear.	1-4 ci.	Fair.	4-4 cum.	Cloudy.	4-4 cum.	Cloudy.	2-4 cum.	Fair.
2	Ci.	Clear.	0	Clear.	4-4 cum.	Cloudy.	4-4 cum.	Cloudy.	2-4 cum.	Fair.
3	Ci.	Clear.	Ci.-st.	Clear.	4-4 cum.	Cloudy.	4-4 cum.	Cloudy.	3-4 cum.	Cloudy.
4	Ci.	Clear.	Ci.	Clear.	3-4 cum.	Cloudy.	4-4 cum.	Cloudy.	4-4 cum.	Cloudy.
5	Ci.	Clear.	1-4 ci.	Fair.	3-4 cum.	Cloudy.	4-4 st.	Cloudy.	3-4 cum.	Cloudy.
6	Ci.-st.	Clear.	1-4 ci.	Fair.	2-4 cum.	Fair.	2-4 cum.	Fair.	4-4 cum.	Cloudy.
7	Ci.	Clear.	1-4 ci.	Fair.	2-4 cum.	Fair.	1-4 cum., 2-4 st.	Cloudy.	4-4 cum.	Cloudy.
8	Ci.-st.	Clear.	1-4 ci.	Fair.	2-4 st.	Fair.	2-4 cum.	Fair.	3-4 cum., 1-4 st.	Cloudy.
9	Ci.	Clear.	1-4 st.	Fair.	2-4 cum.	Fair.	2-4 cum.	Fair.	4-4 st.	Cloudy.
10	Ci.	Clear.	1-4 st.	Fair.	2-4 cum.	Fair.	2-4 cum.	Fair.	4-4 st.	Cloudy.
11	Ci.	Clear.	1-4 st.	Fair.	2-4 cum.	Fair.	2-4 cum.	Fair.	4-4 st.	Cloudy.

Day.	AUGUST, 1872.									
	17.		18.		19.		20.		21.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	4-4 st.	Cloudy.	0	Clear.	0	Clear.	2-4 cum., 1-4 st.	Cloudy.	3-4 cum.	Cloudy.
1	4-4 st.	Cloudy.	0	Clear.	St.	Clear.	4-4 st.	Cloudy.	3-4 cum.	Cloudy.
2	4-4 st.	Cloudy.	Ci.	Clear.	St.	Clear.	4-4 st.	Cloudy.	2-4 cum.	Fair.
3	4-4 st.	Cloudy.	0	Clear.	St.	Clear.	4-4 st.	Cloudy.	1-4 cum.	Fair.
4	4-4 st.	Cloudy.	0	Clear.	Ci.	Clear.	2-4 ci., 1-4 cum.	Cloudy.	1-4 st.	Fair.
5	4-4 st.	Cloudy.	0	Clear.	Ci.	Clear.	2-4 ci., 1-4 cum.	Cloudy.	1-4 st.	Fair.
6	4-4 st.	Cloudy.	0	Clear.	Ci.	Clear.	2-4 ci., 1-4 cum.	Cloudy.	1-4 ci. and st.	Fair.
7	4-4 st.	Cloudy.	0	Clear.	Ci.	Clear.	2-4 ci., 1-4 cum.	Cloudy.	1-4 ci. and st.	Fair.
8	4-4 st.	Cloudy.	0	Clear.	Ci.	Clear.	2-4 ci., 1-4 cum.-st.	Cloudy.	1-4 ci. and st.	Fair.
9	4-4 st.	Cloudy.	0	Clear.	Ci.	Clear.	2-4 ci., 1-4 st.	Cloudy.	1-4 st.	Fair.
10	4-4 st.	Cloudy.	0	Clear.	Ci.-st.	Clear.	1-4 ci., 2-4 cum.	Cloudy.	Ci., 1-4 st.	Fair.
11	2-4 cum., 1-4 st.	Cloudy.	0	Clear.	Ci.-st.	Clear.	1-4 ci., 1-4 st.	Fair.	Ci., 1-4 st.	Fair.
Noon.	2-4 cum.	Fair.	0	Clear.	Ci.-st.	Clear.	1-4 st.	Fair.	Ci. and ci.-cum., 1-4 st.	Fair.
1h	1-4 cum.	Fair.	0	Clear.	Ci.	Clear.	1-4 st.	Fair.	Ci. and ci.-cum., 1-4 st.	Fair.
2	1-4 cum.	Fair.	0	Clear.	Ci.	Clear.	1-4 ci.	Fair.	1-4 st.	Fair.
3	Cum.	Clear.	0	Clear.	1-4 ci.-cum.	Fair.	1-4 ci.	Fair.	1-4 st.	Fair.
4	Cum.	Clear.	0	Clear.	1-4 ci.-cum.	Fair.	1-4 ci.	Fair.	1-4 st.	Fair.
5	Cum.	Clear.	0	Clear.	1-4 ci.-cum.	Fair.	1-4 ci.	Fair.	1-4 st.	Fair.
6	Cum.	Clear.	0	Clear.	1-4 ci.-cum.	Fair.	2-4 ci.	Fair.	1-4 st.	Fair.
7	Ci.	Clear.	0	Clear.	2-4 cum., 2-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Fair.
8	Ci.	Clear.	Ci.	Clear.	2-4 cum., 2-4 st.	Fair.	1-4 cum., 1-4 st.	Fair.	2-4 st.	Fair.
9	Ci.	Clear.	Ci.	Clear.	2-4 cum., 2-4 st.	Fair.	1-4 cum., 1-4 st.	Fair.	1-4 cum., 1-4 st.	Fair.
10	Ci.	Clear.	Ci.	Clear.	1-4 cum., 3-4 st.	Cloudy.	1-4 cum., 1-4 st.	Fair.	1-4 cum., 1-4 st.	Fair.
11	Ci.	Clear.	0	Clear.	1-4 cum., 3-4 st.	Cloudy.	1-4 cum., 2-4 st.	Cloudy.	1-4 cum., 1-4 st.	Fair.

Day.	AUGUST, 1872.									
	22.		23.		24.		25.		26.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	1-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.	1-4 ci., 1-4 cum.	Fair.
1	1-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.	1-4 ci., 1-4 cum.	Fair.
2	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	0	Clear.	St.	Clear.	1-4 ci., 1-4 cum.	Fair.
3	1-4 cum., 3-4 st.	Lt. rain.	4-4 st.	Cloudy.	0	Clear.	St.	Clear.	1-4 ci., 1-4 cum.	Fair.
4	1-4 cum., 3-4 st.	Cloudy.	4-4 st.	Cloudy.	0	Clear.	1-4 ci.	Fair.	1-4 ci., 1-4 cum.	Fair.
5	1-4 cum., 3-4 st.	Cloudy.	4-4 st.	Cloudy.	0	Clear.	1-4 ci.	Fair.	2-4 ci., 1-4 st.	Cloudy.
6	4-4 st.	Cloudy.	4-4 st.	Cloudy.	0	Clear.	1-4 ci.	Fair.	2-4 ci., 1-4 st.	Cloudy.
7	4-4 st.	Cloudy.	3-4 st.	Cloudy.	0	Clear.	1-4 ci.	Fair.	1-4 ci., 3-4 st.	Cloudy.
8	4-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.	1-4 ci.	Fair.	4-4 st.	Cloudy.
9	4-4 st.	Cloudy.	Ci., 1-4 st.	Fair.	0	Clear.	1-4 ci., st.	Fair.	1-4 ci., 3-4 st.	Cloudy.
10	1-4 cum., 2-4 st.	Cloudy.	Ci., 1-4 st.	Fair.	Ci.	Clear.	1-4 ci., st.	Fair.	3-4 st.	Cloudy.
11	3-4 cum., 1-4 st.	Cloudy.	Ci., 1-4 st.	Fair.	Ci.	Clear.	1-4 ci.	Fair.	1-4 ci., 2-4 cum.	Cloudy.
Noon.	4-4 st.	Lt. rain.	Ci.	Clear.	St.	Clear.	Ci.	Clear.	1-4 ci., 2-4 cum.	Cloudy.
1h	4-4 st.	Lt. rain.	Ci.	Clear.	St.	Clear.	Ci.	Clear.	1-4 ci., 2-4 cum.	Cloudy.
2	4-4 st.	Lt. rain.	Ci.	Clear.	St.	Clear.	Ci.	Clear.	4-4 st.	Cloudy.
3	4-4 st.	Lt. rain.	0	Clear.	0	Clear.	Ci.	Clear.	4-4 st.	Cloudy.
4	4-4 st.	Lt. rain.	Ci.	Clear.	0	Clear.	1-4 ci.-st., st.	Fair.	4-4 st.	Cloudy.
5	4-4 st.	Cloudy.	Ci.	Clear.	Ci.	Clear.	1-4 cum.	Fair.	1-4 cum., 3-4 st.	Cloudy.
6	4-4 st.	Cloudy.	0	Clear.	Ci.	Clear.	1-4 cum.	Fair.	1-4 cum., 3-4 st.	Cloudy.
7	1-4 cum., 3-4 st.	Cloudy.	0	Clear.	Ci.	Clear.	1-4 cum.	Fair.	1-4 cum., 1-4 st.	Fair.
8	4-4 st.	Lt. rain.	Ci.	Clear.	St.	Clear.	1-4 cum.	Fair.	1-4 ci., 1-4 cum.	Fair.
9	4-4 st.	Cloudy.	Ci.	Clear.	Ci.	Clear.	2-4 cum., 1-4 st.	Fair.	1-4 ci., 1-4 cum.	Fair.
10	4-4 st.	Cloudy.	1-4 st.	Fair.	Ci., 1-4 st.	Clear.	2-4 cum., 1-4 st.	Fair.	1-4 ci., cum.	Fair.
11	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Clear.	1-4 ci. and ci.-st.	Fair.	1-4 ci., cum.	Fair.

Day.	AUGUST, 1872.									
	27.		28.		29.		30.		31.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	1-4 st.	Fair.	Ci., 1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.	4-4 st.	Cloudy.
1	1-4 st.	Fair.	1-4 cum. and st.	Fair.	1-4 st.	Fair.	0	Clear.	4-4 st.	Cloudy.
2	1-4 ci., 1-4 st.	Fair.	1-4 cum. and st.	Fair.	1-4 st.	Fair.	0	Clear.	2-4 cum., 2-4 st.	Cloudy.
3	1-4 ci., 1-4 st.	Fair.	1-4 cum. and st.	Fair.	1-4 st.	Fair.	0	Clear.	4-4 st.	Cloudy.
4	2-4 ci., 1-4 st.	Cloudy.	1-4 ci. and st.	Fair.	1-4 st.	Fair.	0	Clear.	4-4 st.	Cloudy.
5	2-4 ci., 1-4 st.	Cloudy.	1-4 ci., 1-4 st.	Fair.	St.	Clear.	0	Clear.	2-4 cum., 2-4 st.	Cloudy.
6	2-4 ci., 1-4 st.	Cloudy.	1-4 ci., 1-4 st.	Fair.	St.	Clear.	0	Clear.	3-4 st., 1-4 cum.	Cloudy.
7	2-4 ci., 2-4 st.	Cloudy.	1-4 ci., 1-4 st.	Fair.	0	Clear.	0	Clear.	4-4 st.	Cloudy.
8	2-4 ci., 2-4 st.	Cloudy.	Ci., 1-4 st.	Fair.	St.	Clear.	0	Clear.	4-4 st.	Cloudy.
9	2-4 ci.-cum., 1-4 st.	Cloudy.	1-4 cum., st.	Fair.	Ci., st.	Clear.	0	Clear.	4-4 st.	Cloudy.
10	3-4 cum.	Cloudy.	1-4 cum., st.	Fair.	Ci.	Clear.	Ci., st.	Clear.	2-4 cum., 2-4 st.	Cloudy.
11	2-4 cum., 1-4 st.	Cloudy.	1-4 cum., st.	Fair.	Ci.	Clear.	St.	Clear.	3-4 cum., 1-4 st.	Cloudy.
Noon.	2-4 cum., 1-4 st.	Cloudy.	1-4 cum., st.	Fair.	0	Clear.	St.	Clear.	4-4 st.	Cloudy.
1h	2-4 cum., 1-4 st.	Cloudy.	1-4 ci. and cum.	Fair.	0	Clear.	St.	Clear.	4-4 st.	Cloudy.
2	2-4 cum., 1-4 st.	Cloudy.	1-4 ci. and cum.	Fair.	0	Clear.	St.	Clear.	4-4 st.	Cloudy.
3	2-4 st.	Fair.	1-4 ci.-st.	Fair.	St.	Clear.	1-4 ci.-cum., cum.	Fair.	4-4 st.	Cloudy.
4	2-4 st.	Fair.	1-4 ci.	Fair.	St.	Clear.	3-4 cum.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.
5	1-4 cum., 2-4 st.	Cloudy.	1-4 ci., 1-4 cum.	Fair.	Ci.	Clear.	3-4 cum.	Cloudy.	1-4 ci.-cum., 2-4 cum. and st.	Cloudy.
6	1-4 cum., 2-4 st.	Cloudy.	1-4 ci., 1-4 cum.	Fair.	Ci.	Clear.	1-4 cum., 2-4 st.	Cloudy.	1-4 ci., 2-4 cum. and st.	Cloudy.
7	1-4 cum., 2-4 st.	Cloudy.	1-4 ci., 1-4 cum.	Fair.	Ci.	Clear.	1-4 cum., 2-4 st.	Cloudy.	1-4 ci., 2-4 cum.	Cloudy.
8	1-4 cum., 2-4 st.	Cloudy.	1-4 ci., 1-4 cum.	Fair.	St.	Clear.	2-4 cum., 1-4 st.	Cloudy.	1-4 ci., 2-4 cum.	Cloudy.
9	1-4 st.	Fair.	1-4 st.	Fair.	Ci., st.	Clear.	2-4 cum., 1-4 st.	Cloudy.	2-4 ci.-cum., 1-4 st.	Cloudy.
10	Ci., 1-4 st.	Fair.	Ci., 1-4 st.	Fair.	St.	Clear.	2-4 cum., 1-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.
11	Ci., 1-4 st.	Fair.	Ci., 1-4 st.	Fair.	Ci.	Clear.	3-4 cum., 1-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.

The following table contains the number of hours for each month during which the sky was either clear (col. 2), less covered than ¼ (col. 3), one-fourth overcast (col. 4), etc.:

Months.	Clear.	⌣	1-4	2-4	3-4	4-4	Σ
1871.							
November ...	76	0	66	51	95	197	485
December ...	107	0	224	115	102	158	706
1872.							
January	119	0	230	166	89	111	715
February	88	0	217	150	73	168	696
March	65	0	190	99	87	269	710
April	237	0	83	81	105	205	711
May	217	15	142	91	133	146	744
June	80	66	124	90	153	191	704
July	65	38	44	42	65	267	521
August	106	152	132	76	122	156	744
Σ	1160	271	1452	961	1024	1868	6736

The above table shows that during the greater portion of the time the sky was nearly entirely covered, that out of 6736 hours it was overcast entirely ($\frac{4}{4}$) during 1868 hours, and only clear during 1160. The clearest month was April, with 237 hours. The least amount of clear weather was experienced in July, namely, 65 hours.

For the sake of better comparison, we express the amount of cloudiness in percentages. The first table contains the percentage for each month, as derived from the sums of the respective months; the second, the percentage for the months, as derived from the sums of the year.

Table 1.

Amount of clouds.	Months.										Σ
	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	
Clear.	15.7	15.2	16.7	12.7	9.2	33.0	29.2	11.3	12.5	14.3	17.2
⌣	0.0	0.0	0.0	0.0	0.0	0.0	2.0	9.3	7.3	20.4	4.1
1-4	13.6	31.7	32.2	31.2	26.8	11.7	19.1	17.9	8.4	17.8	21.5
2-4	10.5	16.3	23.2	21.5	13.9	11.4	12.2	12.7	8.1	10.2	14.2
3-4	19.6	14.4	12.4	10.5	12.2	14.8	17.9	21.7	12.5	16.4	15.3
4-4	40.6	22.4	15.5	24.1	37.9	28.8	19.6	27.1	51.2	20.9	27.7
Σ	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 2.

Months.	Amount of clouds.						Σ
	Clear.	⌣	1-4	2-4	3-4	4-4	
November .	6.6	0.0	4.6	5.3	9.2	10.5	7.2
December .	9.2	0.0	15.5	11.9	9.9	8.4	10.5
January ...	10.3	0.0	15.8	17.3	8.7	5.9	10.6
February ..	7.6	0.0	14.9	15.6	7.1	8.9	10.3
March	5.8	0.0	13.1	10.3	8.6	14.3	10.5
April	20.3	0.0	5.7	8.4	10.2	10.9	10.6
May	18.7	5.6	9.8	9.5	13.0	7.8	11.1
June	6.8	24.3	8.5	9.4	15.0	10.2	10.4
July	5.6	14.0	3.0	4.4	6.4	14.8	7.7
August	9.1	56.1	9.1	7.9	11.9	8.3	11.1
Σ	100.0	100.0	100.0	100.0	100.0	100.0	100.0

FACE OF SKY AND STATE OF WEATHER AT POLARIS HOUSE.

The same mode of record is adopted in the observations made at Polaris House as at Polaris Bay. The series comprises six months, viz: from November 1, 1872 to May 31, 1873. But one break of one hour occurred during the whole time the observations were carried on.

Day.	NOVEMBER, 1872.									
	1.		2.		3.		4.		5.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	0	Clear.	4-4 st.	Cloudy.	4-4 st.	Snow.	4-4 st.	Cloudy.	0	Clear.
1	0	Clear.	4-4 st.	Cloudy.	4-4 st.	Snow.	4-4 st.	Cloudy.	0	Clear.
2	0	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.
3	0	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.
4	0	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	0	Clear.
5	0	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	0	Clear.
6	0	Clear.	4-4 st.	Cloudy.	1-4 cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 cum., 1-4 st.	Clear.
7	0	Clear.	4-4 st.	Cloudy.	2-4 cum.	Fair.	4-4 st.	Lt. snow.	2-4 cum., 1-4 st.	Cloudy.
8	0	Clear.	4-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 cum. and st.	Cloudy.
9	0	Clear.	4-4 st.	Lt. snow.	2-4 cum., 1-4 st.	Cloudy.	1-4 cum., 3-4 st.	Lt. snow.	4-4 cum. and st.	Cloudy.
10	0	Clear.	4-4 st.	H. snow.	2-4 cum., st.	Fair.	4-4 st.	Lt. snow.	3-4 cum., 1-4 st.	Cloudy.
11	0	Clear.	4-4 st.	H. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 cum.	Cloudy.
Noon.	0	Clear.	4-4 st.	H. snow.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	3-4 cum., 1-4 st.	Cloudy.
1h	St.	Fair.	4-4 st.	H. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 cum.	Cloudy.
2	1-4 st.	Fair.	4-4 st.	Snow ?	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.
3	1-4 st.	Fair.	4-4 st.	Snow ?	4-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 st.	Lt. snow.
4	1-4 st.	Fair.	4-4 st.	Snow.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.
5	St.	Clear.	4-4 st.	Snow	4-4 st.	Cloudy.	2-4 st.	Fair.	4-4 st.	Lt. snow.
6	St.	Clear.	4-4 st.	Snow.	4-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Lt. snow.
7	St.	Clear.	4-4 st.	Snow.	4-4 st.	Cloudy.	0	Clear.	3-4 st.	Lt. snow.
8	St.	Clear.	4-4 st.	Snow.	4-4 st.	Cloudy.	0	Clear.	3-4 st.	Cloudy.
9	2-4 st.	Fair.	4-4 st.	Snow.	4-4 st.	Lt. snow.	0	Clear.	2-4 st.	Fair.
10	4-4 st.	Cloudy.	4-4 st.	Snow.	4-4 st.	Lt. snow.	0	Clear.	2-4 st.	Fair.
11	4-4 st.	Cloudy.	4-4 st.	Snow.	4-4 st.	Lt. snow.	0	Clear.	2-4 st.	Fair.

Day.	NOVEMBER, 1872.									
	6.		7.		8.		9.		10.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	0	Clear.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
1	0	Clear.	1-4 st.	Fair.	St.	Clear.	1-4 st.	Hazy.	1-4 st.	Fair.
2	0	Clear.	1-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.	St.	Clear.
3	0	Clear.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.
4	0	Clear.	1-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.	St.	Clear.
5	1-4 cum., 2-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.	St.	Clear.
6	2-4 cum.	Fair.	2-4 st.	Lt. snow.	St.	Clear.	1-4 st.	Fair.	1-4 st.	Fair.
7	2-4 cum.	Fair.	3-4 st.	Fair.	St.	Lt. snow.	1-4 st.	Fair.	St.	Clear.
8	2-4 cum.	Fair.	3-4 st.	Cloudy.	1-4 st.	Lt. snow.	1-4 st.	Fair.	1-4 ci.-st. and st.	Fair.
9	2-4 cum.	Fair.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 ci.-cum. and cum., 1-4 st.	Fair.
10	3-4 cum.	Cloudy.	3-4 st.	Cloudy.	1-4 ci.-cum., 1-4 st.	Fair.	1-4 st.	Fair.	1-4 ci.-cum. and cum., 1-4 st.	Fair.
11	3-4 cum.	Cloudy.	3-4 st. and cum.	Cloudy.	1-4 ci. and ci.-cum., 1-4 st.	Fair.	1-4 st.	Fair.	1-4 ci.-cum. and cum., 1-4 st.	Fair.
Noon.	3-4 cum.	Cloudy.	3-4 cum.	Cloudy.	1-4 cum., 1-4 st.	Fair.	2-4 st.	Fair.	1-4 ci.-cum. and cum., 1-4 st. and ci.-st.	Fair.
1h	3-4 cum., 1-4 st.	Cloudy.	3-4 cum., 1-4 st.	Lt. snow.	1-4 ci.-st. and st.	Fair.	1-4 cum., 1-4 st.	Cloudy.	Ci., 1-4 st. and ci.-st.	Fair.
2	3-4 cum., 1-4 st.	Cloudy.	3-4 cum., 1-4 st.	Lt. snow.	1-4 ci.-st. and st.	Fair.	1-4 cum., 2-4 st.	Cloudy.	Ci., 1-4 st. and ci.-st.	Fair.
3	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 st.	Fair.	4-4 st.	Cloudy.	1-4 st.	Fair.
4	2-4 st.	Fair.	4-4 st.	Lt. snow.	1-4 st.	Fair.	4-4 st.	Cloudy.	1-4 st.	Fair.
5	2-4 st.	Hazy.	4-4 st.	Lt. snow.	1-4 st.	Fair.	4-4 st.	Hazy.	1-4 st.	Fair.
6	1-4 st.	Hazy.	4-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Hazy.	1-4 st.	Fair.
7	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.
8	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Hazy.	1-4 st.	Fair.	1-4 ci. and st.	Fair.
9	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Hazy.	1-4 st.	Fair.	1-4 ci. and st.	Fair.
10	1-4 st.	Fair.	1-4 st.	Lt. snow.	1-4 st.	Hazy.	1-4 st.	Fair.	1-4 ci. and st.	Fair.
11	1-4 st.	Fair.	1-4 st.	Lt. snow.	1-4 st.	Hazy.	1-4 st.	Fair.	2-4 st.	Fair.

Day.	NOVEMBER, 1872.									
	11.		12.		13.		14.		15.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	1-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Hazy.
1	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Hazy.
2	St.	Clear.	St.	Clear.	4-4 st.	H. snow.	4-4 st.	Snow ?	4-4 st.	Hazy.
3	St.	Clear.	St.	Clear.	4-4 st.	H. snow.	4-4 st.	Snow ?	3-4 st.	Cloudy.
4	St.	Clear.	St.	Clear.	4-4 st.	H. snow.	4-4 st.	Snow ?	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Fair.
5	St.	Clear.	St.	Clear.	4-4 st.	H. snow.	4-4 st.	Snow ?	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Fair.
6	1-4 st.	Fair.	St.	Clear.	4-4 st.	Snow.	4-4 st.	Snow ?	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Fair.
7	1-4 ci.-st. and st.	Fair.	St.	Clear.	4-4 st.	Snow.	4-4 st.	Lt. snow.	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Fair.
8	1-4 ci.-st. and st.	Fair.	St.	Clear.	4-4 st.	Snow.	4-4 st.	Lt. snow.	3-4 cum., 1-4 st.	Cloudy.
9	1-4 st.	Fair.	Cum. and st.	Clear.	4-4 st.	Snow ?	4-4 st.	Lt. snow.	3-4 cum., 1-4 st.	Cloudy.
10	1-4 st.	Fair.	Cum. and st.	Clear.	4-4 st.	Snow ?	4-4 st.	Lt. snow.	1-4 cum. and ci.-cum., 1-4 st.	Fair.
11	1-4 st.	Fair.	St.	Clear.	4-4 st.	Snow ?	4-4 st.	Lt. snow.	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Fair.
Noon.	1-4 st.	Fair.	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Snow ?	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Fair.
1h	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Snow ?	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Fair.
2	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Snow ?	1-4 ci.-st. and st.	Fair.
3	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.
4	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Snow ?	St.	Clear.
5	1-4 st.	Fair.	0	Clear.	4-4 st.	Lt. snow.	1-4 ci.	Fair.	St.	Clear.
6	1-4 st.	Fair.	1-4 ci. and ci.-st.	Fair.	4-4 st.	Lt. snow.	1-4 ci.	Fair.	3-4 cum., st.	Cloudy.
7	1-4 st.	Fair.	2-4 ci.	Fair.	4-4 st.	Lt. snow.	1-4 ci. and st.	Fair.	3-4 cum., 1-4 st.	Cloudy.
8	1-4 st.	Fair.	2-4 ci.	Fair.	4-4 st.	Lt. snow.	1-4 ci. and st.	Fair.	2-4 cum., 2-4 st.	Cloudy.
9	1-4 st.	Fair.	2-4 ci.	Hazy.	4-4 st.	Lt. snow.	1-4 ci. and st.	Fair.	3-4 cum., 1-4 st.	Cloudy.
10	1-4 st.	Fair.	1-4 ci., 3-4 st.	Cloudy.	4-4 st.	Snow ?	Ci., 1-4 st.	Fair.	3-4 cum., 1-4 st.	Cloudy.
11	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Snow ?	Ci., 1-4 st.	Fair.	3-4 cum., 1-4 st.	Cloudy.

Day.	NOVEMBER, 1872.									
	16.		17.		18.		19.		20.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	1-4 cum., 2-4 st.	Cloudy.
1	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	1-4 cum., 1-4 st.	Fair.
2	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	1-4 cum., 1-4 st.	Fair.
3	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	1-4 cum. and ci.-cum., 1-4 st.	Fair.
4	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.	4-4 st.	Fair.	3-4 ci.-cum. cum.	Cloudy.
5	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	1-4 ci.-cum., 2-4 cum.	Cloudy.
6	1-4 cum., 1-4 st.	Fair.	4-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	2-4 cum. and ci.-cum., 2-4 st.	Cloudy.
7	1-4 cum. and ci.-cum., 1-4 st.	Fair.	4-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	1-4 ci.-cum., 2-4 st.	Cloudy.
8	2-4 cum. and ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	2-4 cum., 2-4 st.	Cloudy.
9	1-4 cum. and ci.-cum., 1-4 st.	Fair.	2-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.	4-4 st.	Cloudy.
10	St.	Clear.	2-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.	4-4 st.	Cloudy.
11	St.	Clear.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.
Noon.	St.	Clear.	3-4 st.	Cloudy.	1-4 ci.-cum., st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.
1h	St.	Clear.	2-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.	4-4 st.	Cloudy.
2	St.	Clear.	3-4 st.	Cloudy.	1-4 ci.-cum., st.	Fair.	1-4 st.	Fair.	3-4 cum.	Cloudy.
3	1-4 ci.-st. and st.	Fair.	3-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	2-4 cum., 2-4 st.	Cloudy.
4	2-4 st.	Fair.	3-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	2-4 cum., 1-4 st.	Cloudy.
5	2-4 st.	Fair.	3-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	2-4 cum.	Fair.
6	3-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.	1-4 cum., 3-4 st.	Cloudy.
7	3-4 st.	Cloudy.	2-4 st.	Fair.	Ci.-st., st.	Clear.	1-4 st.	Fair.	1-4 cum., 3-4 st.	Cloudy.
8	3-4 st.	Cloudy.	2-4 st.	Fair.	1-4 ci. and st.	Fair.	1-4 st.	Fair.	3-4 cum., 1-4 st.	Cloudy.
9	3-4 st.	Cloudy.	2-4 st.	Fair.	1-4 ci. and st.	Fair.	1-4 st.	Fair.	1-4 cum.	Fair.
10	1-4 st.	Fair.	2-4 st.	Fair.	1-4 ci. and st.	Fair.	St.	Clear.	1-4 cum. and st.	Fair.
11	St.	Clear.	1-4 st.	Fair.	2-4 ci.-st.	Fair.	St.	Clear.	0	Clear.

Day.	NOVEMBER, 1872.									
	21.		22.		23.		24.		25.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	1-4 st.	Fair.	2-4 ci.-cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.
1	2-4 cum.	Fair.	2-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.
2	2-4 cum. and ci.-cum., 1-4 st.	Cloudy.	1-4 ci.-cum., 1-4 st.	Fair.	4-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.
3	1-4 ci.-cum., 2-4 cum., 1-4 st.	Cloudy.	2-4 cum., 1-4 st.	Fair.	3-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.
4	2-4 cum., 1-4 st.	Cloudy.	2-4 cum. and ci.-cum., 1-4 st.	Cloudy.	Ci.-cum., 2-4 cum.	Fair.	St.	Clear.	2-4 st.	Fair.
5	1-4 ci.-cum., 2-4 cum.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	1-4 ci.-cum., 2-4 cum.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.
6	St.	Clear.	2-4 ci.-cum., 1-4 st.	Cloudy.	Ci.-st., 1-4 st.	Fair.	St.	Clear.	2-4 st.	Cloudy.
7	Ci. and ci.-cum., 1-4 st.	Fair.	2-4 ci.-cum., 1-4 st.	Cloudy.	Ci.-st., 1-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.
8	Ci.-cum., 1-4 st.	Fair.	2-4 cum. and ci.-cum., 1-4 st.	Cloudy.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.
9	Ci.-st.	Clear.	2-4 cum. and ci.-cum., 1-4 st.	Cloudy.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.
10	Ci.-st.	Clear.	2-4 ci.-cum., 1-4 st.	Cloudy.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.
11	Ci.-st., st.	Clear.	2-4 cum., 1-4 st.	Cloudy.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.
Noon.	Ci.-st., st.	Clear.	1-4 ci.-cum., 1-4 st.	Fair.	Ci.-st. and st.	Clear.	St.	Clear.	4-4 st.	Cloudy.
1h	Ci.-st., st.	Clear.	2-4 cum. and ci.-cum., 1-4 st.	Cloudy.	Ci.-st. and st.	Clear.	St.	Clear.	4-4 st.	Cloudy.
2	1-4 st.	Fair.	2-4 ci.-cum., 2-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.
3	2-4 st.	Fair.	2-4 cum., 1-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.
4	1-4 ci.-cum., 2-4 st.	Cloudy.	1-4 ci.-cum., 1-4 st.	Cloudy.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.
5	2-4 ci.-cum., 2-4 st.	Cloudy.	2-4 cum. and ci.-cum., 1-4 st.	Cloudy.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.
6	2-4 ci.-cum., 2-4 st.	Cloudy.	2-4 ci.-cum., 2-4 st.	Cloudy.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.
7	1-4 ci.-cum., 3-4 st.	Cloudy.	1-4 ci.-cum., 3-4 st.	Cloudy.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.
8	2-4 ci.-cum., 2-4 st.	Cloudy.	1-4 ci.-cum., 3-4 st.	Cloudy.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.
9	3-4 ci.-cum., 1-4 st.	Cloudy.	1-4 ci.-cum., 3-4 st.	Cloudy.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.
10	3-4 ci.-cum., 1-4 st.	Cloudy.	3-4 st.	Cloudy.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.
11	2-4 ci.-cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.

Day.	NOVEMBER, 1872.									
	26.		27.		28.		29.		30.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	St.	Clear.	4-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.
1	St.	Clear.	4-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.
2	St.	Clear.	4-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.	4-4 st.	Lt. snow.
3	St.	Clear.	4-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	4-4 st.	Lt. snow.
4	St.	Clear.	4-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	4-4 st.	Lt. snow.
5	St.	Clear.	4-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	4-4 st.	Lt. snow.
6	St.	Clear.	4-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.
7	St.	Clear.	4-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.
8	St.	Clear.	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.
9	St.	Clear.	3-4 st.	Cloudy.	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.
10	St.	Clear.	2-4 cum., 1-4 st.	Fair.	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.
11	St.	Clear.	1-4 ci. and ci.-cum., 1-4 st. and ci.-st.	Fair.	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.
Noon.	St.	Clear.	1-4 cum., 1-4 st. and ci.-st.	Fair.	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.
1^h	1-4 ci.-st. and st.	Fair.	1-4 cum., 1-4 st. and ci.-st.	Fair.	St.	Clear.	1-4 cum., 1-4 st.	Fair.	4-4 st.	Lt. snow.
2	Ci.-st., 2-4 st.	Fair.	1-4 cum., 1-4 st.	Fair.	St.	Clear.	3-4 st.	Cloudy.	4-4 st.	Lt. snow.
3	1-4 st.	Fair.	1-4 cum., 1-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.
4	St.	Clear.	3-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.
5	St.	Clear.	4-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
6	2-4 st.	Fair.	4-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
7	3-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
8	3-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.
9	2-4 st.	Fair.	4-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.
10	St.	Clear.	4-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
11	St.	Clear.	4-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.

Day.	DECEMBER, 1872.											
	1.		2.		3.		4.		5.		6.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	4-4 st.	Cloudy.	St.	Clear.	0	Clear.	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.
1	2-4 st.	Fair.	St.	Clear.	0	Clear.	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.
2	1-4 st.	Fair.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	0	Clear.	St.	Hazy.
3	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	0	Clear.	St.	Hazy.
4	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	0	Clear.	St.	Clear.
5	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	0	Clear.	St.	Clear.
6	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	0	Clear.	St.	Clear.
7	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	0	Clear.	St.	Clear.
8	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.
9	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	0	Clear.	1-4 st.	Fair.
10	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.
11	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	0	Clear.	St.	Clear.
Noon.	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	0	Clear.	St.	Clear.
1^h	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	0	Clear.	St.	Clear.
2	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	0	Clear.	St.	Clear.
3	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	0	Clear.	St.	Clear.
4	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	St.	Clear.	1-4 st.	Fair.
5	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	St.	Clear.	4-4 st.	Cloudy.
6	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	St.	Clear.	4-4 st.	Cloudy.
7	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.
8	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.
9	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.
10	St.	Clear.	St.	Clear.	1-4 st.	Fair.	4-4 st.	Cloudy.	St.	Clear.	3-4 st.	Cloudy.
11	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.

Day.	DECEMBER, 1872.									
	7.		8.		9.		10.		11.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 cum., st.	Fair.	1-4 cum. and ci.-cum., 1-4 st.	Fair.
1	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	Cum., 1-4 st.	Fair.	1-4 cum. and ci.-cum., 1-4 st.	Fair.
2	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 st.	Fair.	1-4 cum. and ci.-cum., 1-4 st.	Fair.
3	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 cum., 1-4 st.	Fair.
4	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 cum., 1-4 st.	Fair.
5	St.	Clear.	4-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.
6	St.	Clear.	4-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.
7	St.	Clear.	4-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.
8	St.	Clear.	4-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.
9	1-4 st.	Fair.	4-4 st.	Cloudy.	2-4 st.	Fair.	1-4 cum. and ci.-cum., st.	Fair.	1-4 st.	Fair.
10	1-4 st.	Fair.	4-4 st.	Cloudy.	2-4 st.	Fair.	1-4 cum. and ci.-cum., 1-4 st.	Fair.	1-4 st.	Fair.
11	2-4 st.	Fair.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 cum., 1-4 st.	Fair.	1-4 st.	Fair.
Noon.	2-4 st.	Fair.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
1h	St.	Fair.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
2	3-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.	1-4 cum. and ci.-cum., 1-4 st.	Fair.	1-4 st.	Fair.
3	3-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.
4	4-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	2-4 st.	Fair.	2-4 st.	Fair.
5	4-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.
6	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	3-4 st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	3-4 st.	Cloudy.
7	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	3-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	3-4 st.	Cloudy.
8	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	Cum., 3-4 st.	Cloudy.
9	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 cum., 2-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	3-4 st.	Cloudy.
10	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	2-4 cum., 1-4 st.	Cloudy.	1-4 cum., 2-4 st.	Cloudy.	3-4 st.	Cloudy.
11	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	2-4 cum., 1-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	2-4 st.	Fair.

Day.	DECEMBER, 1872.									
	12.		13.		14.		15.		16.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	2-4 st.	Fair.	St.	Clear.	1-4 cum., 1-4 st.	Fair.	4-4 st.	Hazy.	3-4 cum., 1-4 st.	Cloudy.
1	2-4 st.	Fair.	St.	Clear.	4-4 cum. and ci.-cum., st.	Fair.	4-4 st.	Hazy.	3-4 cum., 1-4 st.	Cloudy.
2	St.	Clear.	1-4 ci.-st. and st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Hazy.	3-4 cum., 1-4 st.	Cloudy.
3	St.	Clear.	1-4 ci.-st. and st.	Fair.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.
4	St.	Clear.	1-4 ci.-st. and st.	Fair.	4-4 st.	Cloudy.	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Fair.	2-4 cum., 1-4 st.	Cloudy.
5	1-4 ci. and ci.-cum., 1-4 st.	Fair.	1-4 ci.-st. and st.	Fair.	3-4 st.	Cloudy.	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Fair.	2-4 cum., 1-4 st.	Cloudy.
6	1-4 ci. and ci.-cum., 1-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Fair.	1-4 cum., 1-4 st.	Fair.
7	1-4 ci. and ci.-cum., st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Fair.	1-4 cum. and ci.-cum., 1-4 st.	Fair.
8	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	2-4 cum. and ci.-cum., 2-4 st.	Cloudy.
9	St.	Clear.	St.	Clear.	1-4 cum., 2-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	1-4 cum. and ci.-cum., 1-4 st.	Fair.
10	1-4 ci. and ci.-st., st.	Fair.	1-4 ci.-st. and st.	Fair.	1-4 cum. and ci.-cum., 2-4 st.	Cloudy.	1-4 cum. and ci.-cum., 1-4 st.	Fair.	St.	Clear.
11	St.	Clear.	1-4 ci.-st. and st.	Fair.	1-4 cum. and ci.-cum., 2-4 st.	Cloudy.	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Fair.	St.	Clear.
Noon.	1-4 ci.-st. and st.	Fair.	1-4 ci.-st. and st.	Fair.	1-4 cum. and ci.-cum., 2-4 st.	Cloudy.	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Fair.	St.	Clear.
1h	1-4 ci.-st. and st.	Fair.	1-4 ci.-st. and st.	Fair.	2-4 cum. and ci.-cum., 2-4 st.	Cloudy.	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Fair.	St.	Clear.
2	2-4 st.	Fair.	1-4 ci.-st. and st.	Fair.	2-4 cum. and ci.-cum., 1-4 st.	Cloudy.	1-4 ci.-st. and st.	Fair.	St.	Clear.
3	2-4 st.	Fair.	1-4 ci.-st. and st.	Fair.	1-4 cum. and ci.-cum., 1-4 st.	Fair.	St.	Clear.	1-4 ci.-st. and st.	Fair.
4	2-4 st.	Fair.	1-4 ci.-st. and st.	Fair.	1-4 cum., 3-4 st.	Cloudy.	St.	Clear.	2-4 st.	Fair.
5	2-4 st.	Fair.	3-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	St.	Clear.	2-4 st.	Fair.
6	3-4 cum.-st., 1-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 cum., st.	Cloudy.	3-4 st.	Cloudy.
7	1-4 st.	Fair.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 cum., st.	Cloudy.	3-4 st.	Cloudy.
8	St.	Clear.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	3-4 st.	Cloudy.
9	St.	Clear.	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	3-4 st.	Cloudy.
10	3-4 st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	1-4 st.	Fair.
11	3-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	St.	Clear.

Day.	DECEMBER, 1872.									
	17.		18.		19.		20.		21.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.
1	Ci. and ci.-cum., st.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.
2	2-4 cum. and ci.-cum., st.	Fair.	St.	Clear.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
3	2-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Cloudy.	St.	Clear.	1-4 ci.-cum. and cum., st.	Fair.	0	Clear.	St.	Clear.
4	2-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Cloudy.	St.	Clear.	St.	Clear.	0	Clear.	St.	Clear.
5	1-4 ci. and ci.-cum., 1-4 st.	Fair.	St.	Clear.	0	Clear.	St.	Clear.	St.	Clear.
6	1-4 ci. and ci.-cum., 1-4 st. and ci.-st.	Fair.	St.	Clear.	0	Clear.	0	Clear.	St.	Clear.
7	1-4 ci. and ci.-cum., 1-4 st. and ci.-st.	Fair.	St.	Clear.	0	Clear.	0	Clear.	St.	Clear.
8	St.	Clear.	St.	Clear.	1-4 st.	Fair.	0	Clear.	St.	Clear.
9	2-4 cum. and ci.-cum., 2-4 ci.-st. and st.	Fair.	St.	Clear.	1-4 st.	Fair.	0	Clear.	St.	Clear.
10	2-4 cum. and ci.-cum., 2-4 ci.-st. and st.	Fair.	St.	Clear.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
11	1-4 cum. and ci.-cum., st.	Fair.	St.	Clear.	1-4 st.	Fair.	0	Clear.	St.	Clear.
Noon.	Ci.-st., st.	Clear.	St.	Clear.	St.	Clear.	0	Clear.	St.	Clear.
1h	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.
2	St.	Clear.	St.	Clear.	0	Clear.	0	Clear.	St.	Clear.
3	St.	Clear.	St.	Clear.	0	Clear.	St.	Clear.	St.	Clear.
4	St.	Clear.	St.	Clear.	0	Clear.	St.	Clear.	St.	Clear.
5	St.	Clear.	St.	Clear.	0	Clear.	St.	Clear.	St.	Clear.
6	St.	Clear.	St.	Clear.	0	Clear.	St.	Clear.	St.	Clear.
7	St.	Clear.	St.	Clear.	0	Clear.	St.	Clear.	St.	Clear.
8	St.	Clear.	St.	Clear.	0	Clear.	St.	Clear.	1-4 st.	Fair.
9	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
10	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
11	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.

Day.	DECEMBER, 1872.									
	22.		23.		24.		25.		26.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	1-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.	St.	Clear.
1	1-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
2	1-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
3	1-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
4	1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	St.	Clear.
5	1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	St.	Clear.
6	1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.	St.	Clear.	St.	Clear.
7	1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.	St.	Clear.	St.	Clear.
8	1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	St.	Clear.
9	1-4 st.	Fair.	1-4 st.	Fair.	0	Clear.	1-4 st.	Fair.	St.	Clear.
10	1-4 st.	Fair.	St.	Clear	0	Clear.	1-4 st.	Fair.	St.	Clear.
11	1-4 st.	Fair.	St.	Clear.	0	Clear.	1-4 st.	Fair.	St.	Clear.
Noon.	1-4 st.	Fair.	St.	Clear.	0	Clear.	3-4 st.	Cloudy.	St.	Clear.
1^h	1-4 st.	Fair.	St.	Clear.	0	Clear.	2-4 st.	Hazy.	St.	Clear.
2	1-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.	2-4 st.	Hazy.	St.	Clear.
3	1-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
4	1-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
5	1-4 st.	Fair.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
6	1-4 st.	Fair.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
7	1-4 st.	Fair.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
8	1-4 st.	Fair.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
9	1-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
10	1-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
11	1-4 st.	Fair.	St.	Clear.	2-4 st.	Fair.	St.	Clear.	St.	Clear.

Day.	DECEMBER, 1872.									
	27.		28.		29.		30.		31.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	St.	Clear.	St.	Clear.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
1	St.	Clear.	St.	Clear.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
2	St.	Clear.	St.	Clear.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
3	St.	Clear.	St.	Clear.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
4	St.	Clear.	St.	Clear.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
5	St.	Clear.	St.	Clear.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
6	St.	Clear.	St.	Clear.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
7	St.	Clear.	St.	Clear.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
8	St.	Clear.	St.	Clear.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
9	St.	Clear.	St.	Clear.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
10	St.	Clear.	1-4 st.	Hazy.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
11	St.	Clear.	4-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
Noon.	St.	Clear.	4-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
1h	St.	Clear.	4-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
2	St.	Clear.	4-4 st.	Lt. snow.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
3	St.	Clear.	4-4 st.	Lt. snow.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
4	St.	Clear.	4-4 st.	Lt. snow.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
5	St.	Clear.	4-4 st.	Lt. snow.	St.	Clear.	St.	Clear.	St.	Clear.
6	St.	Clear.	4-4 st.	Lt. snow.	St.	Clear.	St.	Clear.	St.	Clear.
7	St.	Clear.	4-4 st.	Lt. snow.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
8	St.	Clear.	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
9	St.	Clear.	3-4 st.	Fair.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
10	St.	Clear.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
11	St.	Clear.	1-4 st.	Fair.	St.	Clear.	St.	Clear.	1-4 st.	Fair.

Day.	JANUARY, 1873.									
	1.		2.		3.		4.		5.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
1	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
2	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
3	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
4	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
5	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
6	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
7	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
8	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
9	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
10	1-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
11	1-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
Noon.	1-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
1h	1-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
2	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	1-1 st.	Fair.
3	1-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
4	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
5	1-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
6	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.	2-4 cum., 1-4 st.	Cloudy.
7	2-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.	St.	Clear.	1-4 cum. and st.	Fair.
8	1-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.
9	1-4 st.	Fair.	St.	Clear.	St.	Clear.	1-4 st.	Lt. snow.	St.	Clear.
10	1-4 st.	Fair.	St.	Clear.	St.	Clear.	3-4 st.	Lt. snow.	1-4 st.	Fair.
11	1-4 st.	Fair.	St.	Clear.	St.	Clear.	1-4 st.	Fair.	1-4 st.	Fair.

Day.	JANUARY, 1873.									
	6.		7.		8.		9.		10.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
1	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
2	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
3	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
4	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Snow ?	4-4 st.	Cloudy.
5	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Snow ?	4-4 st.	Cloudy.
6	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Snow ?	4-4 st.	Cloudy.
7	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
8	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
9	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
10	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Snow ?	4-4 st.	Cloudy.
11	1-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Snow ?	4-4 st.	Cloudy.
Noon.	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
1h	2-4 st.	Fair.	2-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
2	2-4 st.	Fair.	2-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
3	1-4 cum. and ci.-cum., 1-4 st.	Fair.	3-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.
4	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.
5	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.
6	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.
7	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.
8	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.
9	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.
10	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
11	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.

Day.	JANUARY, 1873.									
	11.		12.		13.		14.		15.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	4-4 st.	Lt. snow.	St.	Clear.	3-4 st.	Hazy.	4-4 st.	Cloudy.	2-4 st.	Fair.
1	4-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Hazy.	4-4 st.	Cloudy.	2-4 st.	Fair.
2	4-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Hazy.	4-4 st.	Cloudy.	2-4 st.	Fair.
3	4-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Hazy.	4-4 st.	Cloudy.	2-4 st.	Fair.
4	4-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Hazy.	4-4 st.	Cloudy.	2-4 st.	Fair.
5	3-4 st.	Hazy.	1-4 st.	Fair.	2-4 st.	Hazy.	4-4 st.	Cloudy.	2-4 st.	Fair.
6	2-4 st.	Hazy.	1-4 st.	Fair.	2-4 st.	Hazy.	4-4 st.	Cloudy.	2-4 st.	Fair.
7	1-4 cum. and ci.-cum., 2-4 st.	Hazy.	1-4 st.	Fair.	2-4 st.	Hazy.	4-4 st.	Cloudy.	2-4 st.	Fair.
8	2-4 st.	Fair.	1-4 st.	Fair.	3-4 st.	Hazy.	4-4 st.	Cloudy.	2-4 st.	Fair.
9	2-4 st.	Fair.	St.	Clear.	3-4 st.	Hazy.	4-4 st.	Cloudy.	2-4 st.	Fair.
10	2-4 st.	Hazy.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.
11	2-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.
Noon.	2-4 st.	Hazy.	St.	Clear.	4-4 st.	Cloudy.	2-4 st.	Fair.	2-4 st.	Fair.
1^h	2-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	2-4 st.	Fair.	2-4 st.	Fair.
2	2-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.
3	2-4 st.	Fair.	St.	Clear.	4-4 st.	Lt. snow.	2-4 st.	Fair.	1-4 st.	Fair.
4	2-4 st.	Hazy.	St.	Clear.	4-4 st.	Lt. snow.	3-4 st.	Cloudy.	1-4 st.	Fair.
5	2-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Lt. snow.	2-4 st.	Fair.	1-4 st.	Fair.
6	2-4 st.	Fair.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	1-4 st.	Fair.
7	2-4 st.	Fair.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	2-4 st.	Fair.
8	2-4 st.	Fair.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	3-4 st.	Cloudy.
9	1-4 st.	Fair.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 st.	Cloudy.
10	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-1 st.	Cloudy.	4-4 st.	Cloudy.
11	1-4 st.	Fair.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.

JANUARY, 1873.

Day.	16.		17.		18.		19.		20.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	4-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
1	4-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
2	4-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
3	4-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
4	4-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
5	4-4 st.	Cloudy.	Ci. and ci.-cum., 2-4 st.	Fair.	St.	Clear.	St.	Clear.	1-4 ci.-st. and st.	Fair.
6	4-4 st.	Cloudy.	1-4 ci. and ci.-cum., 1-4 st.	Fair.	St.	Clear.	St.	Clear.	2-4 st.	Fair.
7	4-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	St.	Clear.	2-4 st.	Fair.
8	4-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	St.	Clear.	2-4 st.	Fair.
9	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 ci. and ci.-cum., 1-4 st.	Fair.
10	4-4 st.	Cloudy.	St.	Clear.	2-4 st.	Hazy.	St.	Clear.	Ci.-st., 2-4 st.	Fair.
11	3-4 st.	Cloudy.	St.	Clear.	3-4 st.	Cloudy.	St.	Clear.	2-4 st. and ci.-st.	Fair.
Noon.	2-4 st.	Fair.	St.	Clear.	2-4 st. and ci.-st.	Fair.	St.	Clear.	2-4 st.	Fair.
1^h	2-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	1-4 st.	Fair.	3-4 st.	Cloudy.
2	2-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	St.	Clear.	3-4 st.	Cloudy.
3	2-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	St.	Clear.	3-4 st.	Cloudy.
4	2-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.
5	3-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.
6	2-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.
7	2-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	St.	Clear.	3-4 st.	Cloudy.
8	3-4 cum., 1-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.
9	2-4 cum., 1-4 st.	Cloudy.	St.	Clear.	2-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.
10	2-4 cum., 1-4 st.	Cloudy.	1-4 cum. and st.	Fair.	1-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.
11	2-4 cum., 1-4 st.	Cloudy.	1-4 cum. and st.	Fair.	1-4 st.	Fair.	2-4 st.	Fair.	3-4 st.	Cloudy.

Day.	JANUARY, 1873.									
	21.		22.		23.		24.		25.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	4-4 st.	Lt. snow.	St.	Clear.	1-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.
1	3-4 st.	Hazy.	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.
2	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.
3	St.	Clear.	St.	Clear.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
4	St.	Clear.	St.	Clear.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
5	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.
6	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.
7	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.
8	St.	Clear.	1-4 st.	Hazy.	St.	Clear.	St.	Clear.	St.	Clear.
9	St.	Clear.	2-4 st.	Hazy.	St.	Clear.	St.	Clear.	St.	Clear.
10	St.	Clear.	4-4 st.	Hazy.	St.	Clear.	St.	Clear.	St.	Clear.
11	St.	Clear.	4-4 st.	Hazy.	St.	Clear.	St.	Clear.	St.	Clear.
Noon.	St.	Clear.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
1h	St.	Clear.	1-4 cum. and ci.-cum., 2-4 st.	Cloudy.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
2	St.	Clear.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
3	St.	Clear.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
4	St.	Clear.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	2-4 st.	Fair.
5	St.	Clear.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.
6	St.	Clear.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.
7	St.	Clear.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.
8	St.	Clear.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	2-4 st.	Fair.
9	St.	Clear.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	2-4 st.	Fair.
10	St.	Clear.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
11	St.	Clear.	2-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.

Day.	JANUARY, 1873.									
	26.		27.		28.		29.		30.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	St.	Clear.	St.	Clear.	2-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.
1	St.	Clear.	St.	Clear.	2-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.
2	St.	Clear.	St.	Clear.	2-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.
3	St.	Clear.	St.	Clear.	2-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.
4	St.	Clear.	St.	Clear.	2-4 st.	Fair.	St.	Clear.	St.	Clear.
5	St.	Clear.	St.	Clear.	2-4 st.	Fair.	St.	Clear.	St.	Clear.
6	St.	Clear.	St.	Clear.	2-4 st.	Fair.	St.	Clear.	St.	Clear.
7	St.	Clear.	1-4 st.	Fair.	2-4 st.	Fair.	St.	Clear.	St.	Clear.
8	St.	Clear.	2-4 st.	Hazy.	2-4 st.	Fair.	St.	Clear.	St.	Clear.
9	St.	Clear.	2-4 st.	Fair.	2-4 st.	Fair.	St.	Clear.	St.	Clear.
10	St.	Clear.	3-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.	St.	Clear.
11	St.	Clear.	3-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.
Noon.	St.	Clear.	4-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
1^h	St.	Clear.	3-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.
2	St.	Clear.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st. and ci.-st.	Fair.
3	St.	Clear.	1-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	1-4 st. and ci.-st.	Fair.
4	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	3-4 st.	Cloudy.
5	3-4 st.	Cloudy.	1-4 st.	Lt. snow.	1-4 st.	Fair.	St.	Clear.	2-4 st.	Fair.
6	3-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	2-4 st.	Fair.
7	2-4 st.	Fair.	3-4 st.	Cloudy.	St.	Clear.	2-4 st.	Fair.	2-4 st.	Fair.
8	1-4 st.	Fair.	2-4 st.	Fair.	St.	Clear.	2-4 st.	Fair.	4-4 st.	Cloudy.
9	1-4 st.	Fair.	3-4 st.	Cloudy.	St.	Clear.	3-4 st.	Cloudy.	4-4 st.	Cloudy.
10	St.	Clear.	3-4 st.	Cloudy.	St.	Clear.	3-4 st.	Cloudy.	4-4 st.	Cloudy.
11	St.	Clear.	3-4 st.	Cloudy.	St.	Clear.	2-4 st.	Fair.	4-4 st.	Cloudy.

Day.	JANUARY, 1873.		FEBRUARY, 1873.							
	31.		1.		2.		3.		4.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	4-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.	2-4 st.	Fair.	3-4 st.	Cloudy.
1	4-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	2-4 st.	Fair.	4-4 st.	Lt. snow.
2	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	1-4 st.	Fair.	4-4 st.	Lt. snow.
3	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	1-4 st.	Fair.	4-4 st.	Lt. snow.
4	4-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Lt. snow.
5	4-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Lt. snow.
6	4-4 st.	Cloudy.	St.	Clear.	2-4 st.	Fair.	2-4 st.	Fair.	4-4 st.	Lt. snow.
7	4-4 st.	Lt. snow.	St.	Clear.	3-4 st.	Cloudy.	2-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Cloudy.	3-4 st.	Cloudy.
8	4-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.	2-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Cloudy.	2-4 st.	Fair.
9	4-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.	2-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Cloudy.	2-4 st.	Fair.
10	4-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Cloudy.	2-4 st.	Fair.
11	4-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Cloudy.	2-4 st.	Fair.
Noon.	4-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.
1^h	4-4 st.	Lt. snow.	St.	Clear.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	2-4 st.	Fair.
2	4-4 st.	Lt. snow.	St.	Clear.	4-4 st.	Cloudy.	2-4 cum. and ci.-cum., 1-4 st.	Cloudy.	2-4 st.	Fair.
3	4-4 st.	Lt. snow.	St.	Clear.	4-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	2-4 st.	Fair.
4	4-4 st.	Lt. snow.	St.	Clear.	4-4 st.	Cloudy.	1-4 cum., 2-4 st.	Cloudy.	3-4 st.	Cloudy.
5	4-4 st.	Lt. snow.	St.	Clear.	4-4 st.	Cloudy.	1-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.
6	2-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.
7	St.	Clear.	1-4 st.	Fair.	4-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.
8	St.	Clear.	1-4 st.	Fair.	4-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.
9	St.	Clear.	1-4 st.	Fair.	2-4 cum., 2-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.
10	St.	Clear.	1-4 st.	Fair.	2-4 cum., 2-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.
11	St.	Clear.	2-4 st.	Fair.	2-4 cum., 2-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.

Day.	FEBRUARY, 1873.									
	5.		6.		7.		8.		9.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	3-4 cum., 1-4 st.	Cloudy.	1-4 st.	Fair.	1-4 ci.-st., 1-4 cum.	Fair.	2-4 st.	Fair.	1-4 cum., 1-4 st.	Fair.
1	3-4 cum., 1-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.	2-4 st.	Fair.	1-4 cum. and ci.-cum., 1-4 st.	Fair.
2	3-4 cum., 1-4 st.	Cloudy.	St.	Clear.	4-4 st.	Lt. snow.	2-4 st.	Fair.	1-4 cum. and ci.-cum., 1-4 st.	Fair.
3	2-4 cum., 1-4 st.	Cloudy.	0	Clear.	4-4 st.	Lt. snow.	2-4 st.	Fair.	1-4 cum. and ci.-cum., 1-4 st.	Fair.
4	4-4 st.	Cloudy.	0	Clear.	4-4 st.	Lt. snow.	2-4 st.	Fair.	1-4 cum. and ci-cum., 1-4 st.	Fair.
5	3-4 st.	Cloudy.	0	Clear.	4-4 st.	Lt. snow.	2-4 st.	Fair.	1-4 st.	Fair.
6	3-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Lt. snow.	2-4 st.	Fair.	1-4 st.	Fair.
7	4-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Lt. snow.	2-4 st.	Fair.	St.	Clear.
8	4-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.
9	4-4 st.	Lt. snow.	1-4 st.	Fair.	4-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.
10	4-4 st.	Lt. snow.	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.	2-4 st.	Fair.	St.	Clear.
11	4-4 st.	Lt. snow.	1-4 st.	Fair.	4-4 st.	Lt. snow.	2-4 st.	Fair.	St.	Clear.
Noon.	4-4 st.	Lt. snow.	1-4 st.	Fair.	4-4 st.	Lt. snow.	2-4 st.	Fair.	St.	Clear.
1^h	4-4 st.	Lt. snow.	1-4 st.	Fair.	4-4 st.	Lt. snow.	2-4 st.	Fair.	St.	Clear.
2	4-4 st.	Lt. snow.	1-4 st.	Fair.	4-4 st.	Lt. snow.	1-4 cum., 2-4 st.	Cloudy.	St.	Clear.
3	3-4 cum., 1-4 st.	Cloudy.	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	St.	Clear.
4	4-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	St.	Clear.
5	4-4 st.	Cloudy.	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	St.	Clear.
6	2-4 cum., 1-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.
7	2-4 cum.	Fair.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.
8	1-4 cum.	Fair.	St.	Clear.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.
9	3-4 cum., 1-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	4-4 st.	Cloudy.	St.	Clear.
10	1-4 cum., 1-4 st.	Fair.	1-4 ci.-st. and st.	Fair.	3-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	St.	Clear.
11	1-4 st.	Fair.	1-4 ci.-st., 2-4 cum.	Cloudy.	2-4 st.	Fair.	3-4 cum., 1-4 st.	Cloudy.	1-4 st.	Fair.

Day.	FEBRUARY, 1873.									
	10.		11.		12.		13.		14.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	St.	Clear.	4-4 st.	Lt. snow.	2-4 st.	Fair.	St.	Clear.	St.	Clear.
1	St.	Clear.	4-4 st.	Lt. snow.	2-4 st.	Fair.	St.	Clear.	St.	Clear.
2	St.	Clear.	4-4 st.	Lt. snow.	2-4 st.	Fair.	St.	Clear.	St.	Clear.
3	St.	Clear.	1-4 cum., 3-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.	St.	Clear.
4	St.	Clear.	4-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.	St.	Clear.
5	1-4 st.	Fair.	4-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
6	1-4 st.	Fair.	3-4 cum., 1-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
7	1-4 st.	Fair.	2-4 cum., 2-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
8	1-4 st.	Fair.	1-4 cum., 2-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
9	1-4 st.	Fair.	1-4 cum., 3-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
10	2-4 st.	Fair.	3-4 st.	Cloudy.	St.	Clear.	St.	Clear.	St.	Clear.
11	1-4 st.	Fair.	3-4 st.	Lt. snow.	St.	Clear.	St.	Clear.	St.	Clear.
Noon.	1-4 st.	Fair.	4-4 st.	Lt. snow.	St.	Clear.	St.	Clear.	St.	Clear.
1h	1-4 st.	Fair.	4-4 st.	Lt. snow.	St.	Clear.	St.	Clear.	St.	Clear.
2	1-4 ci.-st. and st.	Fair.	4-4 st.	Lt. snow.	St.	Clear.	St.	Clear.	St.	Clear.
3	2-4 st.	Fair.	4-4 st.	Lt. snow.	St.	Clear.	St.	Clear.	St.	Clear.
4	2-4 cum., 1-4 st.	Cloudy.	3-4 st.	Cloudy.	St.	Clear.	St.	Clear.	St.	Clear.
5	3-4 cum., 1-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
6	1-4 cum., 3-4 st.	Cloudy.	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.
7	1-4 cum., 3-4 st.	Cloudy.	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.
8	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.
9	4-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
10	4-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
11	4-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.

Day.	FEBRUARY, 1873.									
	15.		16.		17.		18.		19.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	St.	Clear.	St.	Clear.	2-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.
1	St.	Clear.	St.	Clear.	2-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.
2	St.	Clear.	St.	Clear.	2-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.
3	St.	Clear.	St.	Clear.	2-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.
4	St.	Clear.	St.	Clear.	2-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.
5	St.	Clear.	St.	Clear.	1-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.
6	St.	Clear.	1-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	1-4 cum., 1-4 st. and ci.-st.	Fair.
7	St.	Clear.	1-4 ci.-st. and st.	Fair.	1-4 st.	Fair.	St.	Clear.	1-4 cum., 1-4 st. and ci.-st.	Fair.
8	St.	Clear.	1-4 ci.-st. and st.	Fair.	1-4 st.	Fair.	St.	Clear.	1-4 cum., 1-4 st. and ci.-st.	Fair.
9	St.	Clear.	2-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	1-4 cum., 1-4 st. and ci.-st.	Fair.
10	St.	Clear.	2-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	1-4 cum., 1-4 st. and ci.-st.	Fair.
11	St.	Clear.	2-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	1-4 cum., 1-4 st. and ci.-st.	Fair.
Noon.	St.	Clear.	2-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	1-4 cum., 1-4 st. and ci.-st.	Fair.
1^h	St.	Clear.	2-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	1-4 cum., 1-4 st. and ci.-st.	Fair.
2	St.	Clear.	2-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	1-4 cum., 1-4 st. and ci.-st.	Fair.
3	St.	Clear.	2-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	1-4 st. and ci.-st.	Fair.
4	St.	Clear.	3-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.
5	St.	Clear.	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	St.	Clear.
6	St.	Clear.	3-4 st.	Cloudy.	St.	Clear.	St.	Clear.	St.	Clear.
7	St.	Clear.	3-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	St.	Clear.
8	St.	Clear.	3-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	St.	Clear.
9	St.	Clear.	2-4 st.	Fair.	St.	Clear.	2-4 st.	Fair.	St.	Clear.
10	St.	Clear.	1-4 st.	Fair.	St.	Clear.	3-4 st.	Cloudy.	St.	Clear.
11	St.	Clear.	2-4 st.	Fair.	St.	Clear.	2-4 st.	Fair.	St.	Clear.

Day.	FEBRUARY, 1873.									
	20.		21.		22.		23.		24.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.
1	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.
2	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.
3	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	3-4 st.	Cloudy.
4	St.	Clear.	St.	Clear.	2-4 st.	Lt. snow.	4-4 st.	Hazy.	2-4 st.	Fair.
5	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	2-4 st.	Fair.
6	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	2-4 st.	Fair.
7	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.
8	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.
9	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.
10	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.
11	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.
Noon.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	3-4 st. and ci.-st.	Cloudy.
1^h	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	3-4 st. and ci.-st.	Cloudy.	2-4 st. and ci.-st.	Fair.
2	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	3-4 st. and ci.-st.	Cloudy.	2-4 st. and ci.-st.	Fair.
3	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	2-4 st.	Hazy.	2-4 st. and ci.-st.	Fair.
4	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	3-4 st.	Cloudy.	1-4 cum., 2-4 st.	Cloudy.
5	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	3-4 st.	Cloudy.
6	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	3-4 st.	Cloudy.
7	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	2-4 st.	Lt. snow.	3-4 st.	Cloudy.
8	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	2-4 st.	Fair.
9	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	2-4 st.	Fair.	2-4 st.	Fair.
10	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	3-4 st.	Lt. snow.	2-4 st.	Fair.
11	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	2-4 st	Fair.

Day.	FEBRUARY, 1873.								MARCH, 1873.	
	25.		26.		27.		28.		1.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.
1	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.
2	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.
3	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.
4	2-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.
5	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.
6	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.
7	2-4 st.	Fair.	St.	Clear.	St	Clear.	St.	Clear.	4-4 st.	Cloudy.
8	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.
9	2-4 st.	Hazy.	St. and ci.-st.	Clear.	2-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.
10	3-4 st.	Cloudy.	St. and ci.-st.	Clear.	1-4 st.	Fair.	3-4 st.	Cloudy.	4-4 st.	Cloudy.
11	3-4 st.	Cloudy.	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.	4-4 st.	Cloudy.
Noon.	3-4 st.	Cloudy.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
1^h	3-4 st.	Cloudy.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
2	3-4 st.	Cloudy.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
3	3-4 st.	Cloudy.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
4	3-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
5	3-4 st.	Cloudy.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
6	3-4 st.	Cloudy.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
7	2-4 st.	Fair.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	3-4 st.	Cloudy.
8	2-4 st.	Fair.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	2-4 st.	Fair.
9	St.	Clear.	1-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	1-4 st.	Fair.
10	1-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	1-4 st.	Fair.
11	St.	Clear.	1-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	1-4 st.	Fair.

Day.	MARCH, 1873.									
	2.		3.		4.		5.		6.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	1-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.
1	1-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.
2	1-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.
3	1-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.
4	1-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.
5	1-4 st.	Fair.	St.	Clear.	St. and ci.-st.	Clear.	St.	Clear.	St.	Clear.
6	1-4 st.	Fair.	St.	Clear.	St. and ci.-st.	Clear.	St.	Clear.	St.	Clear.
7	1-4 st.	Fair.	St.	Clear.	1-4 st. and ci.-st.	Fair.	St.	Clear.	St.	Clear.
8	1-4 st.	Fair.	St.	Clear.	1-4 st. and ci.-st.	Fair.	1-4 st.	Hazy.	St.	Clear.
9	1-4 st.	Fair.	1-4 ci.-st. and st.	Fair.	1-4 st. and ci.-st.	Fair.	1-4 st.	Hazy.	St.	Clear.
10	1-4 st.	Fair.	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Fair.	1-4 st. and ci.-st.	Fair.	1-4 st.	Fair.	St.	Clear.
11	1-4 st.	Fair.	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Fair.	2-4 st. and ci.-st.	Fair.	1-4 st. and ci.-st.	Fair.	St.	Clear.
Noon.	1-4 st.	Fair.	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Fair.	1-4 ci. and ci.-cum., 1-4 st. and ci.-st.	Fair.	1-4 st. and ci.-st.	Fair.	St.	Clear.
1h	1-4 st.	Fair.	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Fair.	2-4 cum. and ci.-cum., 1-4 st.	Hazy.	2-4 st. and ci.-st.	Fair.	St.	Clear.
2	1-4 st.	Fair.	1-4 st.	Fair.	2-4 cum. and ci.-cum., 1-4 st.	Hazy.	2-4 st. and ci.-st.	Fair.	St.	Clear.
3	1-4 st.	Fair.	1-4 st.	Fair.	2-4 cum., 1-4 st.	Hazy.	2-4 ci.-st.	Fair.	St.	Clear.
4	1-4 st.	Fair.	1-4 st.	Fair.	3-4 st.	Cloudy.	2-4 ci.-st., 1-4 st.	Cloudy.	St.	Clear.
5	1-4 st.	Fair.	1-4 st.	Fair.	1-4 cum., 2-4 st.	Cloudy.	2-4 ci.-st., 1-4 st.	Cloudy.	St.	Clear.
6	1-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Fair.	1-4 ci.-st., 1-4 st.	Cloudy.	St.	Clear.
7	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	1-4 ci.-st. and st.	Fair.	St.	Clear.
8	St.	Clear.	1-4 st.	Fair.	1-4 st.	Fair.	2-4 cum. and st.	Fair.	St.	Clear.
9	St.	Clear.	1-4 st.	Fair.	1-4 st.	Fair.	2-4 cum. and st.	Fair.	St.	Clear.
10	St.	Clear.	1-4 st.	Fair.	St.	Clear.	2-4 st.	Fair.	St.	Clear.
11	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.	St.	Clear.

Day.	MARCH, 1873.									
	7.		8.		9.		10.		11.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	2-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.	3-4 st.	Cloudy.	4-4 cum.	Cloudy.
1	1-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.	3-4 st.	Cloudy.	2-4 cum., 1-4 st. and ci.-st.	Cloudy.
2	St.	Clear.	St.	Clear.	1-4 st.	Fair.	3-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.
3	St.	Clear.	St.	Clear.	Cum., 1-4 st.	Fair.	2-4 st.	Fair.	2-4 cum. and ci.-cum., 1-4 st.	Cloudy.
4	St.	Clear.	St.	Clear.	1-4 cum., 1-4 st.	Fair.	2-4 st.	Fair.	2-4 cum. and ci.-cum., 1-4 st.	Cloudy.
5	St.	Clear.	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Fair.	2-4 cum. and ci.-cum., st.	Fair.	2-4 st.	Fair.	3-4 cum., 1-4 st.	Cloudy.
6	St.	Clear.	Ci.-st. and st.	Clear.	4-4 st.	Cloudy.	1-4 ci.-st. and st.	Fair.	3-4 cum., 1-4 st.	Cloudy.
7	St.	Clear.	Ci.-st. and st.	Clear.	4-4 st.	Cloudy.	1-4 ci.-st. and st.	Fair.	3-4 cum., 1-4 st.	Cloudy.
8	St.	Clear.	Ci.-st. and st.	Clear.	4-4 st.	Cloudy.	1-4 ci.-st. and st.	Fair.	2-4 cum. and ci.-cum., 1-4 st.	Cloudy.
9	St.	Clear.	1-4 cum. and ci.-cum., 1-4 st. and ci.-st.	Fair.	4-4 st.	Cloudy.	Ci.-st. and st.	Clear.	2-4 cum. and ci.-cum., 1-4 st.	Cloudy.
10	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	Ci.-st. and st.	Clear.	2-4 cum. and ci.-cum., 1-4 st.	Cloudy.
11	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	1-4 ci.-st. and st.	Fair.	2-4 cum. and ci.-cum., 1-4 st.	Cloudy.
Noon.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	1-4 ci.-st. and st.	Fair.	2-4 cum. and ci.-cum., 1-4 st.	Cloudy.
1h	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	1-4 ci.-st. and st.	Fair.	3-4 cum., 1-4 st.	Cloudy.
2	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	1-4 ci.-st. and st.	Fair.	3-4 cum., 1-4 st.	Cloudy.
3	Ci.-st. and st.	Clear.	Ci.-st. and st.	Clear.	4-4 st.	Cloudy.	1-4 ci.-st. and st.	Fair.	3-4 cum., 1-4 st.	Cloudy.
4	St.	Clear.	1-4 st.	Fair.	4-4 st.	Cloudy.	1-4 ci.-st., 1-4 cum. and st.	Fair.	4-4 cum.	Cloudy.
5	St.	Clear.	3-4 ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 st.	Fair.	3-4 cum., 1-4 st.	Cloudy.
6	St.	Clear.	2-4 cum., 2-4 st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	Cum. and 1-4 st.	Fair.	3-4 cum., 1-4 st.	Cloudy.
7	St.	Clear.	2-4 st.	Fair.	4-4 st.	Cloudy.	Cum. and 1-4 st.	Fair.	2-4 cum., 2-4 st.	Cloudy.
8	St.	Clear.	1-4 st.	Fair.	3-4 st.	Cloudy.	1-4 st.	Fair.	2-4 cum., 2-4 st.	Cloudy.
9	St.	Clear.	2-4 st.	Fair.	3-4 st.	Cloudy.	St.	Clear.	2-4 cum., 2-4 st.	Cloudy.
10	St.	Clear.	1-4 st.	Fair.	3-4 st.	Cloudy.	St.	Clear.	3-4 cum., 1-4 st.	Cloudy.
11	St	Clear.	1-4 st.	Fair.	4-4 st.	Cloudy.	3-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.

Day.	MARCH, 1873.									
	12.		13.		14.		15.		16.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	3-4 cum., 1-4 st.	Lt. snow.	St.	Clear.	1-4 st.	Fair.	3-4 st.	Cloudy.	1-4 st.	Fair.
1	3-4 cum., 1-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	3-4 st.	Cloudy.	1-4 st.	Fair.
2	4-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	3-4 st.	Cloudy.	1-4 st.	Fair.
3	4-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	3-4 st.	Cloudy.	1-4 st.	Fair.
4	4-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	3-4 st.	Cloudy.	2-4 st.	Fair.
5	3-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	2-4 st.	Fair.	2-4 st.	Fair.
6	1-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.	2-4 st.	Fair.	3-4 st.	Cloudy.
7	Ci.-st. and st.	Clear.	St.	Clear.	1-4 st.	Fair.	2-4 st.	Fair.	4-4 st.	Cloudy.
8	Ci.-st., 1-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.	2-4 st.	Lt. snow.	4-4 st.	Cloudy.
9	2-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.
10	3-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	1-4 ci.-st. and st.	Fair.	4-4 st.	Lt. snow.
11	3-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	1-4 ci.-st. and st.	Fair.	4-4 st.	Lt. snow.
Noon.	3-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	1-4 ci.-st. and st.	Fair.	4-4 st.	Lt. snow.
1^h	4-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	2-4 ci.-st. and st.	Fair.	4-4 st.	Lt. snow.
2	4-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.
3	4-4 st.	Cloudy.	St.	Clear.	2-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.
4	3-4 st.	Cloudy.	St.	Clear.	3-4 ci.-st.	Cloudy.	1-4 ci.-st., 2-4 ci.-cum.	Cloudy.	4-4 st.	Cloudy.
5	1-4 cum., 2-4 st.	Cloudy.	St.	Clear.	2-4 ci.-st., 1-4 st.	Cloudy.	3-4 ci.-cum.	Cloudy.	4-4 st.	Cloudy.
6	3-4 st.	Cloudy.	1-4 st.	Fair.	3-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.
7	3-4 st.	Cloudy.	1-4 st.	Fair.	2-4 st.	Fair.	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.
8	2-4 st.	Fair.	1-4 st.	Fair.	2-4 st.	Fair.	2-4 st.	Fair.	4-4 st.	Cloudy.
9	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	3-4 st.	Cloudy.	4-4 st.	Cloudy.
10	1-4 st.	Fair.	2-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.
11	St.	Clear.	2-4 st.	Fair.	3-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.

Day.	MARCH, 1873.									
	17.		18.		19.		20.		21.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.	3-4 st.	Cloudy.
1	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.	3-4 st.	Cloudy.
2	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.	3-4 st.	Cloudy.
3	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.	3-4 st.	Cloudy.
4	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.	3-4 st.	Cloudy.
5	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.	3-4 st.	Cloudy.
6	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.	1-4 st.	Fair.
7	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.	1-4 st.	Fair.
8	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.	Ci.-st. and st.	Clear.
9	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.	Ci.-st. and st.	Clear.
10	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.	Ci.-st. and st.	Clear.
11	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.	St.	Clear.
Noon.	2-4 cum., 1-4 st.	Cloudy.	St.	Clear.	St.	Clear.	3-4 st.	Lt. snow.	St.	Clear.
1^h	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	3-4 st.	Lt. snow.	St.	Clear.
2	4-4 st.	Cloudy.	St.	Clear.	St.	Clear.	3-4 st.	Lt. snow.	St.	Clear.
3	3-4 cum., 1-4 st.	Cloudy.	St.	Clear.	St.	Clear.	Ci.-cum., 1-4 cum., 1-4 st.	Fair.	St.	Clear.
4	2-4 cum., 2-4 st.	Cloudy.	St.	Clear.	2-4 cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.
5	2-4 cum., 1-4 st.	Cloudy.	St.	Clear.	2-4 cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.
6	1-4 cum., 1-4 st.	Fair.	St.	Clear.	1-4 cum., 3-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.
7	1-4 cum. and st.	Fair.	St.	Clear.	1-4 cum., 3-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.
8	1-4 cum. and st.	Fair.	St.	Clear.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.
9	1-4 cum. and st.	Fair.	St.	Clear.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.
10	2-4 st.	Fair.	St.	Clear.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.
11	1-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	St.	Clear.

Day.	MARCH, 1873.											
	22.		23.		24.		25.		26.		27.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	St.	Clear.	St.	Clear.	St.	Clear.	1-4 cum., 3-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.
1	St.	Clear.	St.	Clear.	St.	Clear.	1-4 cum., 3-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.
2	St.	Clear.	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.
3	St.	Clear.	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.
4	St.	Clear.	St.	Clear.	St.	Clear.	2-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.
5	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
6	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
7	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
8	St.	Clear.	St.	Clear.	Ci.-st. and st.	Clear.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
9	St.	Clear.	St.	Clear.	1-4 ci.-st. and st.	Fair.	St.	Clear.	St.	Clear.	1-4 st.	Fair.
10	St.	Clear.	St.	Clear.	1-4 ci.-st. and st.	Fair.	St.	Clear.	St.	Clear.	Ci.-st., 2-4 st.	Fair.
11	St.	Clear.	St.	Clear.	1-4 ci.-st. and st.	Fair.	St.	Clear.	St.	Clear.	1-4 ci.-st., 1-4 st.	Fair.
Noon.	St.	Clear.	St.	Clear.	Ci.-cum., 1-4 st.	Fair.	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.
1h	St.	Clear.	St.	Clear.	1-4 cum. and ci.-cum., 1-4 st.	Fair.	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.
2	St.	Clear.	St.	Clear.	1-4 cum., 1-4 st.	Fair.	1-4 cum., st.	Fair.	St.	Clear.	3-4 st.	Cloudy.
3	St.	Clear.	St.	Clear.	1-4 cum., 1-4 st.	Fair.	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.
4	St.	Clear.	St.	Clear.	1-4 cum., 1-4 st.	Fair.	St.	Clear.	St.	Clear.	2-4 ci.-cum., 1-4 st.	Cloudy.
5	St.	Clear.	St.	Clear.	1-4 cum., 1-4 st.	Fair.	St.	Clear.	St.	Clear.	2-4 ci.-cum., 1-4 st.	Cloudy.
6	St.	Clear.	St.	Clear.	2-4 cum., 1-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	2-4 ci.-cum., 1-4 st.	Cloudy.
7	St.	Clear.	St.	Clear.	1-4 cum., 2-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	4-4 st.	Cloudy.
8	St.	Clear.	St.	Clear.	1-4 cum., 2-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	3-4 st.	Cloudy.
9	St.	Clear.	St.	Clear.	2-4 cum., 1-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	2-4 st.	Cloudy.
10	St.	Clear.	St.	Clear.	2-4 cum.	Cloudy.	St.	Clear.	1-4 st.	Fair.	2-4 st.	Cloudy.
11	St.	Clear.	St.	Clear.	3-4 st.	Cloudy.	St.	Clear.	1-4 st.	Fair.	2-4 st.	Cloudy.

Day.	MARCH, 1873.								APRIL, 1873.	
	28.		29.		30.		31.		1.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
1	1-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
2	St.	Clear.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
3	St.	Clear.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	1-4 ci.-st., 2-4 st.	Cloudy.
4	St.	Clear.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	3-4 st.	Cloudy.
5	St.	Clear.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	3-4 st.	Cloudy.
6	St.	Clear.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Lt. snow.	3-4 st.	Cloudy.
7	St.	Clear.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Lt. snow.	3-4 st.	Cloudy.
8	St.	Clear.	1-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	3-4 st.	Cloudy.
9	St.	Clear.	2-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	3-4 st.	Cloudy.
10	St.	Clear.	2-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	3-4 st.	Cloudy.
11	St.	Clear.	2-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	3-4 st.	Cloudy.
Noon.	St.	Clear.	2-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	3-4 st.	Cloudy.
1^h	St.	Clear.	2-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	3-4 st.	Cloudy.
2	St.	Clear.	2-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	1-4 ci.-st., 2-4 st.	Fair.
3	1-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	3-4 st.	Cloudy.
4	1-4 st.	Fair.	1-4 st.	Fair.	3-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	3-4 st.	Cloudy.
5	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	3-4 st.	Cloudy.
6	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	3-4 st.	Cloudy.
7	1-4 ci.-cum. 2-4 st.	Cloudy.	2-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 st.	Cloudy.
8	2-4 st.	Fair.	1-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 st.	Cloudy.
9	2-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.
10	1-4 st.	Fair.	St.	Clear	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.
11	1-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.

Day.	APRIL, 1873.									
	2.		3.		4.		5.		6.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	3-4 st.	Cloudy.	2-4 st.	Fair.	3-4 st.	Cloudy.	1-4 st.	Fair.	4-4 st.	Cloudy.
1	3-4 st.	Cloudy.	2-4 st.	Fair.	4-4 st.	Cloudy.	2-4 st.	Fair.	4-4 st.	Cloudy.
2	3-4 st.	Cloudy.	2-4 st.	Fair.	4-4 st.	Cloudy.	2-4 st.	Fair.	4-4 st.	Cloudy.
3	3-4 st.	Cloudy.	2-4 st.	Fair.	4-4 st.	Cloudy.	2-4 st.	Fair.	4-4 st.	Cloudy.
4	3-4 st.	Cloudy.	2-4 st.	Fair.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.
5	3-4 st.	Cloudy.	2-4 st.	Fair.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.
6	3-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.
7	2-4 st.	Fair.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.
8	2-4 st.	Fair.	Ci.-st., 1-4 st.	Fair.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.
9	1-4 st.	Fair.	Ci.-st., 1-4 st.	Fair.	1-4 cum., 2-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.
10	1-4 st.	Fair.	Ci.-st., 1-4 st.	Fair.	1-4 cum., 2-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.
11	1-4 st.	Fair.	1-4 ci.-cum. ci.-st.	Fair.	Cum. and ci.-cum., 2-4 st.	Fair.	3-4 st.	Cloudy.	4-4 st.	Cloudy.
Noon.	Ci.-st. and st.	Clear.	1-4 ci.-st.	Fair.	Cum. and ci.-cum., 2-4 st.	Fair.	3-4 st.	Cloudy.	4-4 st.	Cloudy.
1^h	Ci.-st. and st.	Clear.	2-4 ci.-st.	Fair.	1-4 ci.-st. and st.	Fair.	3-4 st.	Cloudy.	4-4 st.	Cloudy.
2	Ci.-st. and st.	Clear.	1-4 ci.-st., 1-4 st.	Fair.	1-4 cum. and ci.-st., 1-4 st.	Fair.	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.
3	Ci.-st. and st.	Clear.	1-4 ci.-st., 1-4 st.	Fair.	2-4 cum. and ci.-cum., 1-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.
4	1-4 ci., 1-4 st.	Fair.	St.	Clear.	2-4 ci.-cum., 1-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.
5	2-4 ci., 1-4 st.	Fair.	1-4 st.	Fair.	2-4 ci., 2-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.
6	2-4 ci., 1-4 st.	Fair.	1-4 st.	Fair.	3-4 ci., 1-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.
7	3-4 st.	Cloudy.	1-4 st.	Fair.	2-4 ci., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
8	2-4 st.	Fair.	2-4 st.	Fair.	1-4 ci., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
9	1-4 st.	Fair.	3-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
10	1-4 st.	Fair.	3-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
11	2-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	2-4 cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.

Day.	APRIL, 1873.									
	7.		8.		9.		10.		11.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	4-4 st.	Cloudy.	3-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
1	4-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
2	4-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
3	4-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	St.	Clear.
4	4-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	0	Clear.
5	4-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	0	Clear.
6	2-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	0	Clear.
7	2-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	0	Clear.
8	2-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	0	Clear.
9	2-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.	0	Clear.
10	2-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	Ci.-st. and st.	Clear.	0	Clear.
11	2-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	Ci.-st. and st.	Clear.	St.	Clear.
Noon.	2-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 ci.-st. and st.	Fair.	St.	Clear.
1^h	3-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 ci.-st. and st.	Fair.	St.	Clear.
2	3-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 ci.-st. and st.	Fair.	St.	Clear.
3	3-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 ci.-st. and st.	Fair.	St.	Clear.
4	2-4 st.	Fair.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.
5	4-4 st.	Cloudy.	2-4 st.	Fair.	1-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.
6	4-4 st.	Cloudy.	3-4 st.	Cloudy.	1-4 st.	Fair.	1-4 st.	Fair.	St.	Clear.
7	4-4 st.	Cloudy.	3-4 st.	Cloudy.	St.	Clear	1-4 st.	Fair.	1-4 st.	Fair.
8	4-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.	1-4 st.	Fair.
9	4-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
10	4-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
11	4-4 st.	Cloudy.	2-4 st.	Fair.	St.	Clear.	St.	Clear.	1-4 st.	Fair.

Day.	APRIL, 1873.									
	12.		13.		14.		15.		16.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.
1	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.
2	St.	Clear.	2-4 ci. and st.	Fair.	4-4 st.	Cloudy.	2-4 cum., 1-4 st.	Lt. snow.	4-4 st.	Cloudy.
3	St.	Clear.	3-4 st.	Cloudy.	4-4 st.	Lt. snow.	2-4 cum., 1-4 st.	Lt. snow.	4-4 st.	Cloudy.
4	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.
5	2-4 ci.-st. and st.	Fair.	4-4 st.	Cloudy.	1-4 st., 2-4 cum.	Cloudy.	1-4 ci., 2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.
6	2-4 ci.-st. and st.	Fair.	4-4 st.	Cloudy.	3-4 cum.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.
7	2-4 ci.-st. and st.	Fair.	2-4 ci.-st., 2-4 st.	Cloudy.	4-4 st.	Lt. snow.	3-4 cum., 1-4 st.	Lt. snow.	2-4 cum., 2-4 st.	Cloudy.
8	2-4 ci.-st. and st.	Fair.	2-4 ci.-st. and ci.-cum., 2-4 st.	Cloudy.	1-4 cum., 3-4 st.	Lt. snow.	4-4 st.	Lt. snow.	2-4 cum., 2-4 st.	Cloudy.
9	2-4 ci.-st. and st.	Fair.	2-4 ci.-cum., 2-4 st.	Cloudy.	3-4 cum.	Lt. snow.	4-4 st.	Lt. snow.	4-4 cum.	Cloudy.
10	1-4 ci.-st. and st.	Fair.	1-4 ci.-cum., 3-4 cum.	Cloudy.	2-4 cum., 2-4 st.	Lt. snow.	4-4 st.	Lt. snow.	1-4 cum., 3-4 st.	Cloudy.
11	1-4 ci.-st. and st.	Fair.	1-4 ci. and ci.-st., 2-4 st.	Cloudy.	4-4 st.	Snow.	3-4 cum.	Cloudy.	3-4 st.	Cloudy.
Noon.	1-4 ci.-st. and st.	Fair.	3-4 st.	Cloudy.	3-4 st.	Snow.	2-4 st.	Fair.	St.	Clear.
1h	1-4 st.	Fair.	3-4 st.	Cloudy.	3-4 st.	Fair.	Ci.-st.	Clear.	St.	Clear.
2	1-4 st.	Fair.	4-4 st.	Lt. snow.	3-4 st.	Cloudy.	1-4 st.	Fair.	St.	Clear.
3	1-4 st.	Fair.	4-4 st.	Lt. snow.	3-4 st	Cloudy.	St.	Clear.	Cum., st.	Clear.
4	1-4 st.	Fair.	4-4 st.	Lt. snow.	3-4 st.	Cloudy.	1-4 st.	Fair.	Cum., st.	Clear.
5	Ci.-st., 1-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Snow.	St.	Clear.	St.	Clear.
6	Ci.-st., 1-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Snow.	St.	Clear.	St.	Clear.
7	Ci.-st., 1-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Snow.	3-4 st.	Cloudy.	St.	Clear.
8	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Snow.	4-4 st.	Cloudy.	0	Clear.
9	St.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Snow.	4-4 st.	Cloudy.	0	Clear.
10	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Snow.	4-4 st.	Cloudy.	St.	Clear.
11	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	St.	Clear.

Day.	APRIL, 1873.									
	17.		18.		19.		20.		21.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	St.	Clear.	St.	Clear.	Ci. st. and st.	Clear.	4-4 st.	Cloudy.	3-4 ci.-st.	Cloudy.
1	1-4 st.	Fair.	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
2	3-4 st.	Cloudy.	Ci., 1-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
3	2-4 st.	Fair.	1-4 ci.-st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
4	2-4 st.	Fair.	1-4 ci.-st.	Fair.	St.	Clear.	3-4 st.	Cloudy.	4-4 st.	Cloudy.
5	2-4 st.	Fair.	1-4 ci.-st.	Fair.	St.	Clear.	2-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.
6	St.	Clear.	2-4 st.	Fair.	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.
7	St.	Clear.	2-4 st.	Fair.	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.
8	St.	Clear.	1-4 st.	Fair.	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.
9	1-4 st.	Fair.	St.	Clear.	3-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.
10	1-4 st.	Fair.	St.	Clear.	2-4 cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.
11	1-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.
Noon.	Cum., st.	Clear.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.
1^h	Cum., st.	Clear.	St.	Clear.	2-4 cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 cum., 2-4 st.	Cloudy.
2	Cum., st.	Clear.	Ci.-st.	Clear.	4-4 st.	Cloudy.	1-4 cum., 3-4 st.	Cloudy.	1-4 cum., 2-4 st.	Cloudy.
3	St.	Clear.	Ci.	Clear.	4-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.
4	St.	Clear.	Ci.	Clear.	4-4 st.	Cloudy.	2-4 st.	Cloudy.	2-4 st.	Fair.
5	St.	Clear.	0	Clear.	4-4 st.	Cloudy.	2-4 ci. and st.	Cloudy.	1-4 cum., 1-4 st.	Fair.
6	Cum.-st.	Clear.	0	Clear.	4-4 st.	Cloudy.	1-4 ci.-st.	Cloudy.	St.	Clear.
7	Cum.-st.	Clear.	0	Clear.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	Ci.-st.	Clear.
8	Cum.-st.	Clear.	Ci.-st.	Clear.	4-4 st.	Cloudy.	2-4 st.	Cloudy.	Ci.-st.	Clear.
9	Cum.-st.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	2-4 ci.-st.	Cloudy.	Ci.-st.	Clear.
10	Cum.-st.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	3-4 ci.-st.	Cloudy.	Ci.-st.	Clear.
11	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	3-4 ci.-st.	Cloudy.	Ci.-st.	Clear.

Day.	APRIL, 1873.									
	22.		23.		24.		25.		26.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	Ci.-st.	Clear.	Ci.-st.	Clear.	3-4 ci. and st.	Cloudy.	1-4 cum., 1-4 ci., 1-4 st.	Cloudy.	1-4 cum. and st.	Fair.
1	Ci.-st.	Clear.	Ci.-st.	Clear.	1-4 ci., 2-4 st.	Cloudy.	Cum.-ci., 2-4 st.	Fair.	St.	Clear.
2	Ci.-st.	Clear.	St.	Clear.	2-4 ci., 1-4 st.	Cloudy.	1-4 st. and cum.	Fair.	St.	Clear.
3	St.	Clear.	St.	Clear.	2-4 st.	Fair.	Cum., st.	Clear.	St.	Clear.
4	St.	Clear.	St.	Clear.	3-4 ci.-cum. and ci.-st.	Cloudy.	2-4 cum.	Fair.	St.	Clear.
5	St.	Clear.	St.	Clear.	3-4 cum.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.	St.	Clear.
6	St.	Clear.	St.	Clear.	3-4 cum.	Cloudy.	3-4 cum.	Cloudy.	St.	Clear.
7	St.	Clear.	St.	Clear.	3-4 cum.	Cloudy.	3-4 cum.	Cloudy.	St.	Clear.
8	St.	Clear.	St.	Clear.	1-4 ci.-st.	Fair.	1-4 cum. and st.	Fair.	St.	Clear.
9	St.	Clear.	St.	Clear.	1-4 cum.	Fair.	St.	Clear.	St.	Clear.
10	St.	Clear.	St.	Clear.	2-4 st.	Fair.	St.	Clear.	St.	Clear.
11	St.	Clear.	St.	Clear.	1-4 st.	Fair.	St.	Clear.	1-4 st.	Fair.
Noon.	Ci.-st.	Clear.	St.	Clear.	3-4 ci.-st.	Cloudy.	St.	Clear.	1-4 st.	Fair.
1h	Ci.-st.	Clear.	St.	Clear.	3-4 ci.-st.	Cloudy.	Ci.-st. and st.	Clear.	1-4 st.	Fair.
2	Ci.-st.	Clear.	Ci., ci.-st., and st.	Clear.	4-4 st.	Cloudy.	Ci.-st.	Clear.	1-4 st.	Fair.
3	Ci.-st.	Clear.	1-4 ci. and ci.-st., st.	Fair.	4-4 st.	Cloudy.	Ci.-st.	Clear.	1-4 st.	Fair.
4	Ci.-st.	Clear.	1-4 ci. and ci.-st., st.	Fair.	4-4 st.	Cloudy.	Ci.-st.	Clear.	1-4 st.	Fair.
5	Ci.-st.	Clear.	1-4 ci. and ci.-st., st.	Fair.	3-4 ci.-st.	Cloudy.	Ci.-st.	Clear.	Ci. and st.	Clear.
6	1-4 ci.-st.	Fair.	1-4 ci. and ci.-st., st.	Fair.	3-4 ci.-st.	Cloudy.	Ci.-st.	Clear.	Ci. and st.	Clear.
7	1-4 ci.-st.	Fair.	1-4 ci. and ci.-st., st.	Fair.	3-4 ci.-st.	Cloudy.	Ci.-st.	Clear.	St.	Clear.
8	1-4 ci.-st.	Fair.	1-4 ci. and ci.-st., st.	Fair.	3-4 ci.-st.	Cloudy.	Ci.-st.	Clear.	St.	Clear.
9	1-4 ci.-st.	Fair.	2-4 cum., 1-4 st.	Cloudy.	3-4 ci.-st.	Cloudy.	Ci.-st.	Clear.	St.	Clear.
10	Ci.-st.	Clear.	2-4 cum., 1-4 st.	Cloudy.	2-4 ci.-st.	Fair.	1-4 cum., st.	Fair.	St.	Clear.
11	Ci.-st.	Clear.	4-4 st.	Cloudy.	2-4 ci.-st.	Fair.	1-4 cum., st.	Fair.	St.	Clear.

Day.	APRIL, 1873.								MAY, 1873.	
	27.		28.		29.		30.		1.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.
1	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.
2	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.
3	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.
4	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.
5	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.
6	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.
7	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.
8	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.
9	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	3-4 cum., 1-4 st.	Lt. snow.
10	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	2-4 cum., 1-4 st.	Cloudy.
11	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.
Noon.	3-4 cum., st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 cum., 3-4 st.	Cloudy.	4-4 st.	Cloudy.
1^h	2-4 cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.
2	2-4 cum. and ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	2-4 cum., 2-4 st.	Lt. snow.	4-4 st.	Cloudy.
3	1-4 cum. and ci.-cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	2-4 cum., 1-4 st.	Cloudy.
4	2-4 ci.-st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	3-4 cum., 1-4 st.	Lt. snow.	3-4 cum.	Cloudy.
5	3-4 ci.-st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	2-4 cum., 2-4 st.	Lt. snow.	1-4 cum., 3-4 st.	Lt. snow.
6	2-4 ci.-st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	2-4 cum., 2-4 st.	Lt. snow.	1-4 cum., 3-4 st.	Lt. snow.
7	3-4 ci.-st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	1-4 cum., 3-4 st.	Lt. snow.	4-4 st.	Lt. snow.
8	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Lt. snow.
9	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	3-4 st.	Cloudy.	4-4 st.	Lt. snow.
10	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.
11	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.

Day.	MAY, 1873.									
	2.		3.		4.		5.		6.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	3-4 st.	Cloudy.	2-4 ci.-cum., 1-4 cum. and st.	Cloudy.
1	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	3-4 st.	Cloudy.	3-4 cum., 1-4 st.	Cloudy.
2	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	3-4 st.	Cloudy.	3-4 cum.	Cloudy.
3	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	Ci., 2-4 st.	Fair.	1-4 ci.-cum. and ci.-st.	Fair.
4	1-4 cum., 3-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	Ci., 2-4 st.	Fair.	1-4 st.	Fair.
5	2-4 cum., 2-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	Ci., 2-4 st.	Fair.	1-4 st.	Fair.
6	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	Ci. and ci.-st., 1-4 st.	Fair.	1-4 ci.-cum. and st.	Fair.
7	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	Ci., 1-4 st.	Fair.	1-4 ci.-cum. and st.	Fair.
8	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	Ci., 1-4 st.	Fair.	1-4 ci.-cum. and st.	Fair.
9	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.	Ci.-st., st.	Clear.
10	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.	Ci.-st., st.	Clear.
11	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 ci.-st.	Fair.	Ci.-st., st.	Clear.
Noon.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow?	4-4 st.	Lt. snow.	2-4 ci.-st.	Fair.	Ci.-cum., ci.-st., st.	Clear.
1^h	4-4 st.	Lt. snow.	4-4 st.	Lt. snow?	4-4 st.	Lt. snow.	2-4 ci.-st.	Fair.	Ci.-cum., st.	Clear.
2	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st-	Lt. snow.	2-4 ci.-st.	Fair.	Ci., ci.-st., st.	Clear.
3	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	2-4 ci.-st.	Fair.	1-4 ci.-cum., st. and ci.-st.	Fair.
4	2-4 cum., 2-4 st.	Lt. snow.	3-4 st.	Cloudy.	4-4 st.	Lt. snow.	2-4 ci.-st.	Fair.	1-4 cum. and st.	Fair.
5	2-4 cum., 2-4 st.	Lt. snow.	3-4 st.	Cloudy.	4-4 st.	Lt. snow.	4 4 cum.	Cloudy.	ci. 1-4 cum. st.	Fair.
6	4-4 st.	Lt. snow.	2-4 cum., 2-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 cum.	Cloudy.	1-4 cum. and st.	Fair.
7	4-4 st.	Lt. snow.	3-4 st.	Lt. snow.	3-4 st.	Lt. snow.	4-4 cum.	Cloudy.	1-4 cum. and st.	Fair.
8	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	1-4 cum., 1-4 st.	Fair.	4-4 cum.	Cloudy.	2-4 cum.	Fair.
9	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	1-4 st.	Fair.	2-4 cum., 2-4 st.	Lt. snow.	4-4 cum.	Cloudy.
10	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	1-4 st.	Fair.	2-4 cum., 2-4 st.	Lt. snow.	4-4 cum.	Cloudy.
11	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	St.	Clear.	3-4 cum., 1-4 st.	Cloudy.	4-4 cum.	Cloudy.

Day.	MAY, 1873.									
	7.		8.		9.		10.		11.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	1-4 cum., 1-4 st.	Fair.	3-4 st.	Cloudy.	1-4 ci., 3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
1	1-4 cum., 1-4 st.	Fair.	3-4 st.	Cloudy.	1-4 ci., 3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
2	1-4 cum., 1-4 st.	Fair.	2-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
3	1-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
4	Cum.-st., 1-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
5	2-4 cum., 1-4 st.	Cloudy.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
6	Ci., 1-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.
7	Ci., 1-4 st.	Fair.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
8	Ci., st.	Clear.	St.	Clear.	4-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.
9	St.	Clear.	St.	Clear.	4-4 st.	Cloudy.	2-4 st.	Fair.	4-4 st.	Lt. snow.
10	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	1-4 cum., 1-4 st.	Fair.	4-4 st.	Lt. snow.
11	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	1-4 cum., 1-4 st.	Fair.	4-4 st.	Cloudy.
Noon.	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	2-4 cum., st.	Fair.	4-4 st.	Cloudy.
1^h	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	2-4 cum., st.	Fair.	4-4 st.	Cloudy.
2	St.	Clear.	St.	Clear.	4-4 st.	Lt. snow.	1-4 cum., 2-4 st.	Cloudy.	4-4 st.	Lt. snow.
3	St.	Clear.	1-4 st.	Fair.	4-4 st.	Lt. snow.	1-4 cum., 1-4 st.	Fair.	4-4 st.	Lt. snow.
4	Cum. and st.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	2-4 cum. st.	Fair.	4-4 st.	Lt. snow.
5	Cum. and st.	Clear.	3-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 cum., 2-4 st.	Cloudy.	4-4 st.	Lt. snow.
6	1-4 st.	Fair.	Cum., 3-4 st.	Cloudy.	3-4 cum., 1-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.
7	2-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4 4 st.	Lt. snow.
8	3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.
9	3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.
10	3-4 st.	Cloudy.	1-4 ci., 3-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.
11	3-4 st.	Cloudy.	1-4 ci., 3-4 st.	Cloudy.	1-4 cum., 2-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.

Day.	MAY, 1873.									
	12.		13.		14.		15.		16.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	4-4 st.	Lt. snow.	St.	Clear.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	Ci., 2-4 st.	Fair.
1	4-4 st.	Lt. snow.	Ci., st.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	Ci., 2-4 st.	Fair.
2	4-4 st.	Cloudy.	Ci., st.	Clear.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	Ci., 2-4 st.	Fair.
3	4-4 st.	Cloudy.	2-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	Ci., 2-4 st.	Fair.
4	4-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	2-4 st.	Fair.
5	4-4 st.	Cloudy.	2-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.
6	4-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	1-4 cum., 2-4 st.	Cloudy.
7	2-4 cum., 2-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Lt. snow.	2-4 cum., 1-4 st.	Cloudy.
8	4-4 st.	Cloudy.	2-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 cum., 1-4 st.	Cloudy.
9	1-4 cum., 2-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	1-4 ci.-cum., st.	Fair.
10	3-4 st.	Cloudy.	3-4 st.	Cloudy.	4 4 st.	Cloudy.	4-4 st.	Cloudy.	3-4 st.	Cloudy.
11	3-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	2-4 st.	Fair.
Noon.	2-4 cum., 1-4 st.	Cloudy.	3-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
1h	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
2	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
3	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	4-4 st.	Cloudy.	4-4 st.	Cloudy.
4	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	3-4 ci.-st.	Cloudy.	4-4 st.	Cloudy.
5	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Lt. snow.	Ci.-cum., 3-4 st.	Cloudy.	4-4 st.	Cloudy.
6	2-4 cum., 1-4 st.	Cloudy.	4-4 st.	Lt. snow.	4-4 st.	Snow.	Cum., 3-4 ci.-st.	Cloudy.	4-4 st.	Cloudy.
7	2-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Snow.	2-4 ci.-st.	Cloudy.	3-4 st.	Cloudy.
8	2-4 st.	Fair.	4-4 st.	Cloudy.	4-4 st.	Snow.	3-4 ci.-st.	Cloudy.	3-4 st.	Cloudy.
9	2-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	2-4 ci.-st.	Cloudy.	2-4 st.	Fair.
10	2-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	2-4 ci.-st.	Cloudy.	2-4 st.	Fair.
11	2-4 st.	Fair.	4-4 st.	Lt. snow.	4-4 st.	Cloudy.	1-4 ci.-st.	Fair.	1-4 st.	Fair.

Day.	MAY, 1873.									
	17.		18.		19.		20.		21.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0^h	1-4 st.	Fair.	1-4 ci.	Fair.	Ci.-st.	Clear.	0	Clear.	St.	Clear.
1	St.	Clear.	1-4 ci.	Fair.	Ci.-st.	Clear.	0	Clear.	St.	Clear.
2	St.	Clear.	Ci.	Clear.	Ci.-st.	Clear.	St.	Clear.	St.	Clear.
3	1-4 st.	Fair.	1-4 ci.-st.	Fair.	0	Clear.	St.	Clear.	St.	Clear.
4	St.	Clear.	Ci.-st.	Clear.	0	Clear.	St.	Clear.	St.	Clear.
5	St.	Clear.	Ci.-st.	Clear.	0	Clear.	St.	Clear.	St.	Clear.
6	1-4 st.	Fair.	Ci.-st.	Clear.	0	Clear.	St.	Clear.	St.	Clear.
7	St.	Clear.	Ci.-st.	Clear.	0	Clear.	St.	Clear.	St.	Clear.
8	St.	Clear.	Ci.-st.	Clear.	0	Clear.	St.	Clear.	St.	Clear.
9	St.	Clear.	Ci. st.	Clear.	0	Clear.	St.	Clear.	St.	Clear.
10	St.	Clear.	Ci.-st	Clear.	0	Clear.	0	Clear.	0	Clear.
11	St.	Clear.	Ci.-st.	Clear.	0	Clear.	0	Clear.	0	Clear.
Noon.	St.	Clear.	Ci.-st.	Clear.	0	Clear.	0	Clear.	0	Clear.
1^h	St.	Clear.	Ci.-st.	Clear.	0	Clear.	0	Clear.	0	Clear.
2	St.	Clear.	Ci.-st.	Clear.	0	Clear.	0	Clear.	0	Clear.
3	St.	Clear.	Ci.-st.	Clear.	0	Clear.	0	Clear.	0	Clear.
4	St.	Clear.	Ci.-st.	Clear.	0	Clear.	0	Clear.	0	Clear.
5	Ci.-st.	Clear.	Ci.-st.	Clear.	0	Clear.	0	Clear.	0	Clear.
6	Ci.-st.	Clear.	Ci.-st.	Clear.	0	Clear.	0	Clear.	0	Clear.
7	Ci.-st.	Clear.	Ci.-st.	Clear.	0	Clear.	0	Clear.	0	Clear.
8	Ci.-st.	Clear.	Ci.-st.	Clear.	0	Clear.	0	Clear.	0	Clear.
9	Ci.-st.	Clear.	Ci.-st.	Clear.	0	Clear.	0	Clear.	0	Clear.
10	St.	Clear.	Ci.-st.	Clear.	0	Clear.	0	Clear.	0	Clear.
11	1-4 ci.-st. st.	Fair.	Ci.-st.	Clear.	0	Clear.	0	Clear.	0	Clear.

Day.	MAY, 1873.									
	22.		23.		24.		25.		26.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	0	Clear.	2-4 st.	Fair.	2-4 cum., 2-4 st.	Cloudy.	0	Clear.	0	Clear.
1	0	Clear.	2-4 st.	Fair.	Ci., 1-4 st.	Fair.	0	Clear.	0	Clear.
2	0	Clear.	2-4 st.	Fair.	Ci., 1-4 st.	Fair.	0	Clear.	0	Clear.
3	0	Clear.	2-4 cum., st.	Fair.	2-4 cum. and st.	Fair.	0	Clear.	Ci.-st.	Clear.
4	0	Clear.	3-4 cum., 1-4 st.	Cloudy.	Ci., 1-4 cum.	Fair.	0	Clear.	0	Clear.
5	0	Clear.	3-4 cum., 1-4 st.	Cloudy.	Ci., 1-4 cum.	Fair.	0	Clear.	St.	Clear.
6	0	Clear.	4-4 st.	Cloudy.	Ci., 1-4 cum.	Fair.	0	Clear.	St.	Clear.
7	0	Clear.	4-4 st.	Cloudy.	2-4 st.	Fair.	0	Clear.	St.	Clear.
8	0	Clear.	4-4 st.	Cloudy.	2-4 st.	Fair.	0	Clear.	St.	Clear.
9	0	Clear.	4-4 st.	Cloudy.	Ci.-cum., 1-4 st.	Fair.	0	Clear.	St.	Clear.
10	0	Clear.	3-4 st.	Cloudy.	Ci.-cum., 1-4 st.	Fair.	0	Clear.	St.	Clear.
11	0	Clear.	3-4 st.	Cloudy.	Ci., st.	Clear.	0	Clear.	St.	Clear.
Noon.	Ci.-st.	Clear.	3-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.	Ci.-cum.	Clear.
1h	Ci.-st.	Clear.	3-4 st.	Cloudy.	1-4 st.	Fair.	0	Clear.	Ci.-cum.	Clear.
2	Ci.	Clear.	3-4 st.	Cloudy.	St.	Clear.	Ci.-st.	Clear.	Cum.-st.	Clear.
3	Ci.	Clear.	4-4 st.	Cloudy.	St.	Clear.	Ci.-st.	Clear.	Cum.-st.	Clear.
4	Ci.	Clear.	4-4 st.	Cloudy.	Cum., st.	Clear.	Ci.-st.	Clear.	Ci.-st.	Clear.
5	1-4 ci. and ci.-st.	Fair.	4-4 st.	Cloudy.	Ci.-st.	Clear.	Ci.-st.	Clear.	St.	Clear.
6	1-4 st.	Fair.	4-4 st.	Cloudy.	Ci.	Clear.	Ci.-st.	Clear.	0	Clear.
7	1-4 st.	Fair.	4-4 st.	Cloudy.	Ci.	Clear.	Ci.-st.	Clear.	0	Clear.
8	1-4 st.	Fair.	4-4 st.	Cloudy.	Ci.-st.	Clear.	Ci.-st.	Clear.	0	Clear.
9	1-4 st.	Fair.	2-4 ci.-cum., 2-4 st.	Cloudy.	Ci.-st.	Clear.	Ci.-st.	Clear.	0	Clear.
10	2-4 st.	Fair.	4-4 ci.-cum. st.	Cloudy.	Ci.-st.	Clear.	Ci.-st.	Clear.	0	Clear.
11	2-4 st.	Fair.	4-4 ci.-cum. st.	Cloudy.	Cum.-st.	Clear.	Ci.-st.	Clear.	0	Clear.

Day.	MAY, 1873.									
	27.		28.		29.		30.		31.	
Hour.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.	Amount and kind of clouds.	State of weather.
0h	0	Clear.	2-4 ci., 1-4 st.	Cloudy.	2-4 ci.-cum., st.	Fair.	Cum., st.	Clear.	1-4 ci.-cum., st.	Fair.
1	St.	Clear.	1-4 ci., 1-4 st.	Fair.	Ci.-st., 3-4 cum.	Cloudy.	Cum., st.	Clear.	1-4 cum., st.	Fair.
2	St.	Clear.	2-4 ci.	Fair.	3-4 cum.	Cloudy.	Cum., st.	Clear.	St.	Clear.
3	St.	Clear.	2-4 ci.	Fair.	3-4 cum.	Cloudy.	Cum., st.	Clear.	St.	Clear.
4	St.	Clear.	1-4 ci., 1-4 st.	Cloudy.	3-4 cum.	Cloudy.	Cum., st.	Clear.	ci.-st. 1-4 st.	Fair.
5	St.	Clear.	2-4 cum., 1-4 st.	Cloudy.	3-4 cum.	Cloudy.	St.	Clear.	ci.-st. 1-4 st.	Fair.
6	0	Clear.	3-4 cum.	Cloudy.	3-4 cum.	Cloudy.	St.	Clear.	St.	Clear.
7	0	Clear.	2-4 cum., 1-4 st.	Cloudy.	St.	Clear.	St.	Clear.	St.	Clear.
8	0	Clear.	1-4 ci., 1-4 st.	Fair.	St.	Clear.	St.	Clear.	St.	Clear.
9	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.
10	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.	St.	Clear.
11	St.	Clear.	2-4 cum.	Fair.	St.	Clear.	Ci.-st.	Clear.	St.	Clear.
Noon.	St.	Clear.	2-4 ci.-cum.	Fair.	St.	Clear.	Ci.-st.	Clear.	St.	Clear.
1h	St.	Clear.	St.	Clear.	St.	Clear.	Ci.-st.	Clear.	St.	Clear.
2	Ci.-st.	Clear.	Ci.-st.	Clear.	St.	Clear.	Cum.	Clear.	St.	Clear.
3	Ci.-st.	Clear.	Ci.-st.	Clear.	St.	Clear.	Cum.	Clear.	St.	Clear.
4	1-4 ci.-st.	Fair.	St.	Clear.	Cum.	Clear.	Cum.	Clear.	St.	Clear.
5	1-4 ci.-st.	Fair.	Ci.-st.	Clear.	Cum.	Clear.	Ci.-cum., st.	Clear.	St.	Clear.
6	2-4 ci.-st.	Fair.	Ci., cum.-st.	Clear.	Cum.	Clear.	Ci.-cum., st.	Clear.	St.	Clear.
7	2-4 ci.-st.	Fair.	Ci., cum.-st.	Clear.	Cum.	Clear.	Ci.-cum., st.	Clear.	1-4 st.	Fair.
8	3-4 ci.-st.	Cloudy.	Ci., cum.-st.	Clear.	Cum.	Clear.	Ci.-cum., st.	Clear.	2-4 st.	Fair.
9	2-4 ci.-st.	Fair.	Ci.-cum., st.	Clear.	Cum.	Clear.	1-4 ci.-cum. st.	Fair.	3-4 ci.-st., st.	Cloudy.
10	2-4 ci.-st.	Fair.	1-4 ci.-cum., st.	Fair.	St.	Clear.	1-4 ci.-cum. st.	Fair.	1-4 ci.-st.	Fair.
11	2-4 ci.-st.	Fair.	1-4 ci.-cum., st.	Fair.	Cum., st.	Clear.	1-4 ci.-cum. st.	Fair.	St.	Clear.

The following three tables contain the condensed results of the preceding record; their arrangement is the same as that given for the amount of clouds observed at Polaris Bay.

Table 1.

Months.	Amount of clouds.						Σ
	Clear.	$\smile$	1-4	2-4	3-4	4-4	
1872.							
November...	29	154	148	77	68	244	720
December...	44	349	136	55	45	115	744
1873.							
January.....	0	289	103	115	47	190	744
February....	3	280	80	100	56	153	672
March.......	0	284	160	68	89	143	744
April........	12	184	92	82	114	236	720
May.........	92	208	61	68	70	245	744
Σ........	180	1,748	780	565	489	1,326	5,088

Table 2.

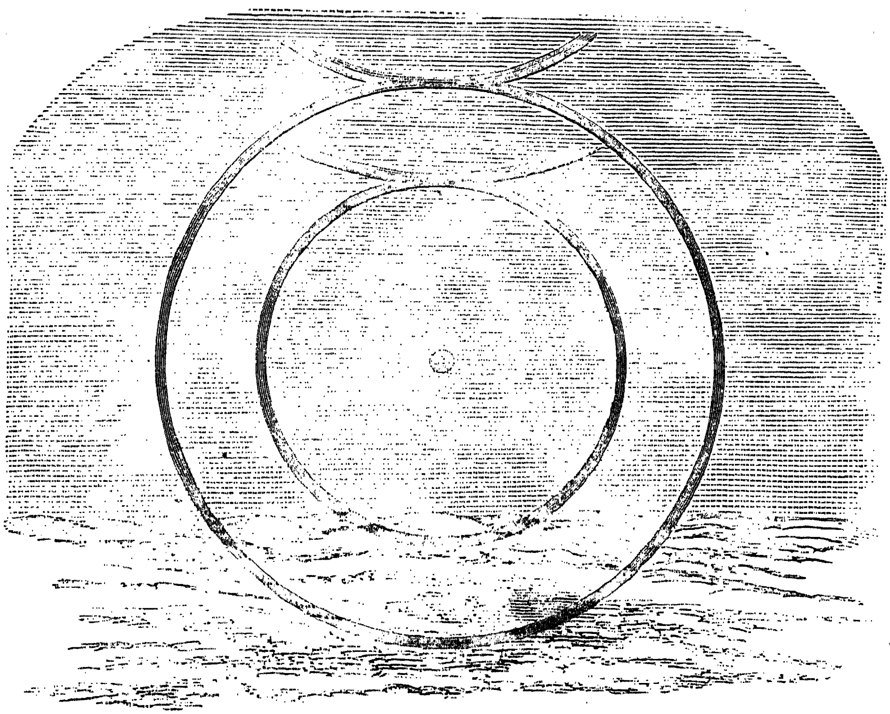
	Months.							Σ
	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	
Clear.	4.0	5.9	0.0	0.5	0.0	1.6	12.4	3.5
$\smile$	21.4	46.9	38.9	41.7	38.2	25.5	27.9	34.4
1-4	20.6	18.3	13.9	11.9	21.5	12.8	8.2	15.3
2-4	10.7	7.4	15.4	14.9	9.2	11.4	9.2	11.1
3-4	9.4	6.4	6.2	8.3	11.9	15.9	9.4	9.6
4-4	33.9	15.4	25.6	22.7	19.2	32.8	32.9	26.1
Σ	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 3.

Months.	Amount of clouds.						Σ
	Clear.	$\smile$	1-4	2-4	3-4	4-4	
November.	16.1	8.8	18.9	13.6	13.9	18.4	14.2
December.	24.4	20.0	17.4	9.7	9.2	8.7	14.6
January...	0.0	16.5	13.2	20.3	9.6	14.3	14.6
February..	1.7	16.0	10.3	17.7	11.5	11.5	13.2
March.....	0.0	16.3	20.5	12.1	18.2	10.8	14.6
April......	6.7	10.5	11.8	14.5	23.3	17.8	14.2
May.......	51.1	11.9	7.9	12.1	14.3	18.5	14.6
Σ......	100.0	100.0	100.0	100.0	100.0	100.0	100.0

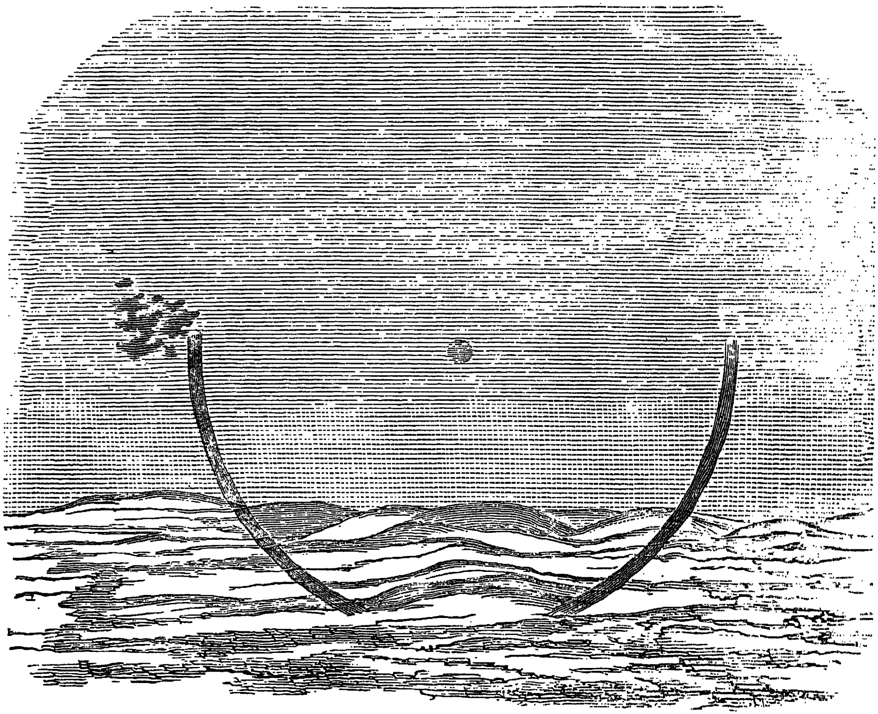
The clouds most frequently met with are the stratus, and, strange to say, the cumulus; then the cirro-cumulus, cirrus, and cirro-stratus. The scarcity of the cumulo-stratus and the total absence of nimbus are readily explained.

A fact worth noticing here is that quite frequently the cirri were observed to descend or to form in the lower regions; that is, in those of the cumulus, or even stratus. The explanation of this phenomenon is easy. A most striking instance of extremely low-hanging cirrus-clouds was observed at Polaris House on May 20, 1873. At 7^h 30^m a. m., a halo was noticed round the sun, as represented in the following diagram:



The outer circle was apparently resting on the ground, and its diameter, as measured by a prismatic compass, was found to be 82° 15′; that of the inner one being 48°. The inner edges of both circles were colored faint red, and were sharply defined. The outer edges did not show the pale-blue tint, as usual, but a dim yellowish-white, with an ill-defined outline. Through the mass of both rings, a chain of hills could be seen, a little over a mile distant. At the time the halo was noticed, the atmosphere was filled with minute ice-spiculæ.

A little before 8^h, the upper part of the halo disappeared, and soon after the rest of the inner circle faded away entirely. At about the same time that part of the outer circle apparently resting on the ground became invisible, and the upper (left-hand) portion was dissipated under the influence of the wind, forming distinct cirrus-clouds.



OBSERVATIONS ON OZONE.

OBSERVATIONS ON OZONE MADE AT POLARIS BAY AND POLARIS HOUSE.

INTRODUCTORY.

The expedition was supplied with several boxes of Schoenbein's and Moffat's ozone test-papers, accompanied by their respective scales. In the observations recorded hereafter, only Schoenbein's paper was used, as that made according to Moffat seemed to be spoiled or badly prepared, giving giving very discordant results.

The paper was exposed in a cage constructed of fine wire-gauze, and placed in the same louver-boarded box containing the various thermometers and the psychrometer. The slips were exposed every morning at 8^h, and left in the cage until the same time the next day, when they were taken out, dipped in ice-water, and compared with the graduated scale. Sometimes we exposed three or four papers, one of which was taken in after the regular interval of time had elapsed, whereas the others were left exposed for three days or longer. In the latter case, it was sometimes found that the strips exposed more than twenty-four hours were less tinted after having been moistened with water than those which had been left in the cage for a shorter time.

The papers were exposed a long time in order to accumulate the small amount of ozone contained in the air which would not act on the paper if left outdoors for a day only. In some instances, the slips that had been exposed longer than twenty-four hours showed a darker color than those which had been in contact with the air for a day only; but the intensity of color shown by the former was never equal to the sum of the intensities of all those exposed a day each during the given time

In the following tables, the first column contains the days of the month; the second, the amount of ozone accumulated during each twenty-four hours; the third, the mean relative humidity during the same lapse of time; the fourth and the fifth, the prevailing direction of the wind and the distance traveled during the said period; and, in the last column, the amount of clouds is to be found.

DECEMBER, 1871.						JANUARY, 1872.					
Date.	Ozone.	Mean relative humidity.	Wind during last 24 hours. Prevailing direction.	Wind during last 24 hours. Number of miles.	Amount of clouds.	Date.	Ozone.	Mean relative humidity.	Wind during last 24 hours. Prevailing direction.	Wind during last 24 hours. Number of miles.	Amount of clouds.
1	1.5	71.37	NE	112	2-4	1	0	41.90	E	103	2-4
2	......	......	......	......	......	2	3	42.39	NE	108	2-4
3	1.5	64.79	NE	168	4-4	3	0	48.43	NE	447	4-4
4	0	75.78	SW	53	4-4	4	2.5	38.94	E	111	0
5	1.5	75.80	SW	445	4-4	5	0	43.19	SE	34	3-4
6	1	67.12	SW	363	1-4	6	0	39.48	SE	86	1-4
7	0	54.86	NE	74	0	7	0	32.50	E	157	0
8	1.5	51.18	E	55	1-4	8	0	36.05	E	80	1-4
9	1	57.31	E	75	3-4	9	2	26.76	E	94	0
10	0	81.52	SW	81	2-4	10	1	44.40	NE	590	3-4
11	1	72.91	NE	345	3-4	11	3.5	38.74	NE	271	1-4
12	4	59.27	E	187	2-4	12	3.5	31.49	NE	746	2-4
13	2.5	52.44	E	89	3-4	13	1	36.26	NE	255	0
14	1	69.20	E	107	2-4	14	2.5	42.30	NE	471	2-4
15	4.5	56.04	NE	488	1-4	15	2.5	43.50	E	165	3-4
16	4	50.00	NE	622	2-4	16	0	52.12	E	85	1-4
17	5	48.56	NE	480	2-4	17	3.5	40.55	E	90	1-4
18	0	46.81	NE	143	1-4	18	0	33.47	E	80	1-4
19	0	67.45	SW	566	4-4	19	3	44.93	E	121	0
20	0	52.08	SW	308	1-4	20	0	62.03	SW	255	2-4
21	4	48.79	E	84	1-4	21	4.5	77.28	SW	173	4-4
22	0	45.60	NE	416	1-4	22	0	78.64	SW	225	4-4
23	0	39.07	NE	490	3-4	23	3	67.25	E	176	1-4
24	4.5	33.17	NE	175	3-4	24	2	52.24	E	121	1-4
25	0	38.86	E	198	1-4	25	0	50.10	N	93	3-4
26	2	41.70	E	184	3-4	26	1	56.40	E	91.9	0
27	3.5	42.86	E	139	3-4	27	0	45.73	E	53.4	1-4
28	0	38.18	NE	265	2-4	28	0	43.81	SE	55.2	1-4
29	2.5	46.91	NE	188	0	29	......	52.17	SE	97.3	2-4
30	0	44.43	E	217	0	30	0	67.78	SE	150	2-4
31	0	45.84	E	125	1-4	31	4	69.56	NE	738	1-4
Mean.	1.5					Mean.	1.4				

FEBRUARY, 1872.

Date.	Ozone.	Mean relative humidity.	Wind during last 24 hours.		Amount of clouds.
			Prevailing direction.	Number of miles.	
1	4	50.65	NE	821	2-4
2	4	45.09	NE	270	2-4
3	0.5	30.57	E	102	0
4	4	42.81	E	89	1-4
5	4	49.82	E	98	1-4
6	0	45.02	E	65	1-4
7	0	56.86	E	75	4-4
8	4	46.77	E	198	1-4
9	0	52.11	NE	202	1-4
10	0	63.60	E	53	2-4
11	0	64.64	NE	652	2-4
12	4	55.97	NE	132	1-4
13	2	63.67	SW	169	0
14	0	45.07	E	100	1-4
15	5.5	41.43	E	71	1-4
16	1.5	43.53	E	98	1-4
17	0	49.10	SW	57	4-4
18	3	70.72	SW	934	4-4
19	0.5	62.39	NE	581	4-4
20	5	43.98	NE	491	4-4
21	2.5	51.54	E	219	1-4
22	0	49.12	NE	679	1-4
23	0	46.98	NE	297	3-4
24	0	43.85	E	115	2-4
25	0	68.60	S	49	4-4
26	0	71.60	NE	307	4-4
27	4	52.84	NE	351	3-4
28	3	60.74	NE	317	3-4
29	3	59.22	NE	794	4-4
Mean.	1.9				

MARCH, 1872.

Date.	Ozone.	Mean relative humidity.	Wind during last 24 hours.		Amount of clouds.
			Prevailing direction.	Number of miles.	
1	3	52.18	NE	500	4-4
2	0	42.21	NE	446	3-4
3	3	40.21	E	117	3-4
4	3	40.02	SW	156	2-4
5	3	59.81	SW	237	4-4
6	2	53.05	NE	396	4-4
7	4.5	40.40	NE	487	3-4
8	3	45.44	NE	290	1-4
9	0	44.79	E	85	2-4
10	0.5	38.55	NE	575	1-4
11	1.5	43.04	NE	536	1-4
12	2	30.62	NE	779	2-4
13	2	46.10	E	131	1-4
14	0.5	50.58	E	37	1-4
15	0	55.63	SE	64	◡
16	3	59.77	NE	228	0
17	1	63.34	SW	142	1-4
18	4	60.89	E	61	◡
19	0	66.84	SE	82	2-4
20	1.5	60.51	NE	750	3-4
21	3	56.36	NE	904	3-4
22	4.5	56.04	NE	323	3-4
23	....	....	....	....	....
24	2.5	62.98	E	68	2-3
25	0	65.60	E	64	1-4
26	0.5	73.14	E	55	4-4
27	0	84.90	E	19	4-4
28	0	85.08	E	22	4-4
29	0	82.24	SE	44	2-4
30	3	86.80	SE	47	3-4
31	0	61.88	SE	38	3-4
Mean.	1.7				

APRIL, 1872.						MAY, 1872.					
Date.	Ozone.	Mean relative humidity.	Wind during last 24 hours.		Amount of clouds.	Date.	Ozone.	Mean relative humidity.	Wind during last 24 hours.		Amount of clouds.
			Prevailing direction.	Number of miles.					Prevailing direction.	Number of miles.	
1	2	88.07	NW	70	4-4	1	4.5	76.84	NE	623	0
2	0.5	79.29	NE	59	1-4	2	4.5	84.30	NE	278	0
3	0	72.90	E	62	0	3	4	87.39	SE	30	0
4	3	75.99	NW	20	0	4	2	77.99	NE	771	3-4
5	3	79.02	NW	27	3-4	5	3	77.78	NE	341	2-4
6	0	73.65	SE	67	3-4	6	3	83.84	NE	162	2-4
7	2	77.76	SE	117	4-4	7	1	84.61	NE	193	1-4
8	1.5	80.88	E	59	4-4	8	3	86.39	E	36	0
9	1	81.59	NW	10	4-4	9	3	88.97	W	50	1-4
10	1	44.58	SE	31	4-4	10	1.5	86.71	NE	312	◡
11	0.5	80.04	E	57	3-4	11	5	83.57	NE	761	3-4
12	2	71.09	E	34	2-4	12	4.5	83.33	SW	246	3-4
13	1	77.61	E	53	4-4	13	5.5	82.49	SW	88	3-4
14	1	62.78	SE	72	3-4	14	3.5	87.02	SW	124	2-4
15	3.5	74.30	E	79	0	15	4	88.70	SW	198	2-4
16	1.5	75.10	E	99	0	16	5	86.37	SW	152	1-4
17	0.5	75.13	SE	38	0	17	4.5	83.46	SW	95	◡
18	0	69.63	SE	55	1-4	18	5	82.69	E	50	1-4
19	1	77.67	E	73	1-4	19	4	80.92	SE	39	1-4
20	0.5	70.50	E	52	3-4	20	3.5	80.92	SE	58	◡
21	0.5	81.84	E	92	4-4	21	4.5	77.29	NE	182	◡
22	2	91.09	SW	100	4-4	22	4	77.74	NE	149	2-4
23	1	90.05	SW	468	2-4	23	5.5	84.40	NE	376	4-4
24	0.5	88.64	SW	199	4-4	24	4.5	86.91	SW	173	3-4
25	3	85.95	NE	429	2-4	25	4.5	87.95	SW	202	4-4
26	----------	----------	----------	----------	----------	26	4	83.47	SW	85	4-4
27	0	83.44	SE	59	0	27	3	85.88	SW	184	4-4
28	1	78.98	SE	70	0	28	5	80.17	SW	137	2-4
29	1	84.04	E	330	2-4	29	3	78.72	SW	156	◡
30	4	82.53	NE	650	1-4	30	5	80.33	SW	61	◡
						31	2.5	83.82	SW	157	3-4
Mean.	1.3					Mean.	3.8				

JUNE, 1872.						JUNE, 1872.					
Date.	Ozone.	Mean relative humidity.	Wind during last 24 hours.		Amount of clouds.	Date.	Ozone.	Mean relative humidity.	Wind during last 24 hours.		Amount of clouds.
			Prevailing direction.	Number of miles.					Prevailing direction.	Number of miles.	
1	5	83.45	SW	263	4-4	17	5	76.86	SW	248	2-4
2	....	....	....	....	....	18	3.5	81.03	SW	186	3-4
3	3	66.85	W	78	1-4	19	4.5	79.13	SW	161	3-4
4	2	59.96	E	47	[illegible]	20	3.5	62.52	NE	195	3-4
5	1	60.17	NW	75	1-4	21	4	74.63	NE	(?)	4-4
6	2.5	66.23	E	57	2-4	22	....	....	....	....	....
7	1	74.23	SE	61	3-4	23	....	....	....	....	....
8	4.5	74.88	SW	74	3-4	24	....	....	....	....	....
9	4.5	72.50	SW	135	2-4	25	....	....	....	....	....
10	4	68.75	SW	194	3-4	26	....	....	....	....	....
11	5	83.69	SW	215	4-4	27	....	....	....	....	....
12	5	77.32	SW	82	1-4	28	....	....	....	....	....
13	3.5	73.61	S	33	2-4	29	....	....	....	....	....
14	3.5	70.15	SE	32	3-4	30	2.5	55.62	NE	156	....
15	3	78.91	NW	58	4-4	Mean.	3.5				
16	3.5	56.97	NE	125	0						

NOVEMBER, 1872.					
Date.	Ozone.	Mean relative humidity.	Wind during last 24 hours. Prevailing direction.	Wind during last 24 hours. Number of miles.	Amount of clouds.
1	....	....	....	....	....
2	1	78.82	SW	334	4-4
3	9	87.22	SW	331	4-4
4	5.5	87.73	SW	132	4-4
5	2	86.34	NE	234	4-4
6	2	87.02	E	72	2-4
7	4	78.07	0	7	3-4
8	5	78.28	NE	118	1-4
9	3	79.14	NE	395	1-4
10	5.5	80.53	NE	348	1-4
11	7.5	72.40	NE	402	1-4
12	3	67.72	NE	257	1-4
13	3	62.26	SW	534	4-4
14	7.5	89.44	SW	525	4-4
15	3	87.82	S	311	3-4
16	7	79.39	N	253	1 4
17	3	83.50	N	587	3-4
18	2	75.22	N	455	1-4
19	3	58.77	NE	434	1-4
20	0	64.78	NE	95	2-4
21	2	70.58	NE	84	2-4
22	2	72.53	NE	396	3-4
23	3.5	81.22	NE	360	1-4
24	4	78.28	NE	366	1-4
25	2	70.27	NE	330	4-4
26	....	....	....	....	....
27	3.5	72.15	NE	371	4-4
28	5.5	67.12	NE	397	1-4
29	4	64.03	NE	314	1-4
30	3	69.76	NE	193	4-4
Mean.	3.8				

DECEMBER, 1872.					
Date.	Ozone.	Mean relative humidity.	Wind during last 24 hours. Prevailing direction.	Wind during last 24 hours. Number of miles.	Amount of clouds.
1	2	61.12	NE	268	1-4
2	6	59.18	NE	379	1-4
3	5.5	60.21	NE	302	1-4
4	6.5	70.69	NE	267	4-4
5	5	71.43	NE	292	0
6	4	64.59	NE	41	1-4
7	3	64.51	SW	100	1-4
8	3	86.36	SW	656	4-4
9	3	72.50	N	388	2-4
10	2	63.91	NE	360	1-4
11	3	66.99	NE	426	1-4
12	4	62.86	NE	355	1-4
13	3	53.56	NE	465	1-4
14	2	60.64	NE	274	4-4
15	4	67.10	NE	243	3-4
16	4.5	70.63	NE	450	3-4
17	8	72.55	NE	469	1-4
18	8	74.94	NE	356	1-4
19	4	71.76	NE	419	0
20	6	74.83	NE	474	1-4
21	8	72.47	NE	480	1-4
22	8	78.82	NE	499	1-4
23	7.5	78.48	NE	221	1-4
24	7.5	76.71	NE	158	1-4
25	6.5	74.72	NE	438	1-4
26	9	66.63	NE	388	1-4
27	7.5	65.34	NE	246	1-4
28	4.5	68.26	NE	182	1-4
29	7	52.15	NE	383	1-4
30	7.5	44.85	NE	405	1-4
31	7.5	30.01	NE	430	1-4
Mean.	5.4				

JANUARY, 1873.					
Date.	Ozone.	Mean relative humidity.	Wind during last 24 hours. Prevailing direction.	Wind during last 24 hours. Number of miles.	Amount of clouds.
1	7	39.78	NE	165	1-4
2	------	------	------	------	------
3	4	29.97	NE	52	1-4
4	4	30.37	0	0	1-4
5	7.5	50.10	SW	121	1-4
6	7	42.28	0	6	1-4
7	6	62.11	0	47	4-4
8	7.5	63.13	SW	174	4-4
9	8.5	55.45	SW	361	4-4
10	9	59.48	S	361	4-4
11	6	36.98	NE	70	2-4
12	4	35.55	0	25	1-4
13	5.5	34.39	0	9	4-4
14	4	32.63	NE	114	4-4
15	5	31.14	NE	361	2-4
16	5	36.32	NE	351	4-4
17	5	26.30	NE	382	1-4
18	6	35.75	NE	425	1-4
19	5	33.60	NE	120	1-4
20	6	40.82	NE	120	1-4
21	6	29.63	NE	79	1-4
22	5	32.98	0	7	1-4
23	5	26.92	0	0	1-4
24	5	36.14	0	24	1-4
25	6	39.85	NE	169	1-4
26	5	47.00	NE	91	1-4
27	4	50.62	S	137	2-4
28	7	39.62	S	215	1-4
29	4	37.78	NE	92	1-4
30	------	------	------	------	------
31	5	52.61	S	244	4-4
Mean.	5.6				

FEBRUARY, 1873.					
Date.	Ozone.	Mean relative humidity.	Wind during last 24 hours. Prevailing direction.	Wind during last 24 hours. Number of miles.	Amount of clouds.
1	9	34.00	NE	484	1-4
2	6	53.25	NE	459	4-4
3	6	59.52	NE	288	2-4
4	5	60.22	NE	404	3-4
5	6.5	76.91	NE	221	3-4
6	3	50.77	NE	74	1-4
7	3	56.80	0	25	4-4
8	5	47.57	SW	200	3-4
9	7	57.30	SW	255	1-4
10	6	49.72	NE	400	1-4
11	6	58.84	S	157	3-4
12	6	70.92	NE	415	1-4
13	8	33.39	NE	400	1-4
14	8	33.96	NE	469	1-4
15	7	50.98	NE	442	1-4
16	5	36.68	NE	428	2-4
17	7	39.45	NE	176	1-4
18	3	39.98	NE	200	1-4
19	5.5	28.78	NE	234	1-4
20	8	28.81	0	22	1-4
21	3	39.32	0	21	1-4
22	4	38.84	NE	77	4-4
23	8	62.65	0	4	4-4
24	5	65.52	SW	126	2-4
25	6	50.74	NE	265	2-4
26	7	49.49	NE	387	1-4
27	4	43.38	NE	287	1-4
28	6	55.57	SW	300	4-4
Mean.	5.8				

MARCH, 1873.

Date.	Ozone.	Mean relative humidity.	Wind during last 24 hours. Prevailing direction.	Wind during last 24 hours. Number of miles.	Amount of clouds.
1	....	....	....	....	....
2	8	45.90	NE	76	1-4
3	7	36.45	NE	318	1-4
4	5	34.82	NE	96	1-4
5	6	43.42	NE	53	1-4
6	6	43.56	NE	187	1-4
7	5	41.64	NE	79	1-4
8	6	46.17	NE	167	1-4
9	7.5	59.38	SW	332	4-4
10	3	52.92	0	24	1-4
11	4	54.38	0	6	4-4
12	3	60.99	0	36	4-4
13	6	51.98	0	20	1-4
14	5	50.63	NE	352	1-4
15	5	53.02	0	9	3-4
16	5	53.80	S	93	4-4
17	4	59.02	S	248	4-4
18	4	53.85	0	6	1-4
19	6	57.90	SW	269	1-4
20	7	70.52	SW	166	3-4
21	4	72.83	NE	332	1-4
22	5	54.81	NE	195	1-4
23	8.5	40.60	NE	399	1-4
24	8	51.75	NE	259	1-4
25	8	49.18	NE	320	1-4
26	8	44.63	0	15	1-4
27	6	39.68	NE	169	1-4
28	7	28.87	NE	172	1-4
29	5	32.34	NE	166	1-4
30	5	21.80	NE	128	1-4
31	6	14.00	NE	78	4-4
Mean.	5.5				

APRIL, 1873.

Date.	Ozone.	Mean relative humidity.	Wind during last 24 hours. Prevailing direction.	Wind during last 24 hours. Number of miles.	Amount of clouds.
1	6.5	35.99	NE	187	3-4
2	4	41.30	0	21	3-4
3	6.5	49.33	0	9	2-4
4	3	43.65	0	5	4-4
5	5	57.36	S	374	3-4
6	6.5	53.40	S	238	4-4
7	7	62.04	S	493	4-4
8	4	63.80	S	235	2-4
9	2	61.46	NE	50	1-4
10	7	67.90	SW	252	1-4
11	6	77.05	SW	118	1-4
12	4.5	74.64	0	3	1-4
13	4	76.87	NE	59	4-4
14	7	86.02	SW	221	4-4
15	3	84.28	NE	141	4-4
16	7	76.97	NE	490	3-4
17	8	76.50	NE	391	1-4
18	8	77.65	NE	278	1-4
19	7	75.54	0	35	4-4
20	4	79.57	S	190	4-4
21	....	....	....	....	....
22	8	74.54	NE	52	1-4
23	5.5	69.01	NE	60	1-4
24	5	82.28	SW	85	3-4
25	6	81.92	NE	488	1-4
26	9.5	77.93	NE	613	1-4
27	8	74.46	NE	480	1-4
28	8	74.04	NE	248	4-4
29	7	72.62	NE	155	4-4
30	2	76.08	0	20	4-4
Mean.	5.8				

MAY, 1873.						MAY, 1873.					
Date.	Ozone.	Mean relative humidity.	Wind during last 24 hours.		Amount of clouds.	Date.	Ozone.	Mean relative humidity.	Wind during last 24 hours.		Amount of clouds.
			Prevailing direction.	Number of miles.					Prevailing direction.	Number of miles.	
1	3	67. 57	0	2	4-4	17	3	81. 97	NE	83	1-4
2	4	79. 33	SW	86	4-4	18	8	81. 59	NE	76	1-4
3	4	81. 68	SW	228	4-4	19	3	78. 56	NE	98	0
4	7	73. 48	SW	212	4-4	20	7	82. 87	NE	231	0
5	3	61. 19	0	51	2-4	21	9	80. 71	NE	107	0
6	3	56. 34	E	43	1-4	22	6	74. 45	0	26	0
7	3	56. 64	NE	166	1-4	23	5	79. 77	NE	223	4-4
8	7	56. 29	NE	288	1-4	24	9	80. 23	NE	332	1-4
9	8	63. 88	NE	347	4-4	25	8	82. 73	NE	331	1-4
10	9	73. 92	SW	424	4-4	26	10	76. 80	NE	300	1-4
11	5	74. 76	SW	162	4-4	27	8	81. 62	NE	144	1-4
12	7	70. 72	S	151	3-4	28	8	80. 22	NE	233	1-4
13	3	75. 36	0	3	4-4	29	4	75. 12	NE	336	1-4
14	4	80. 22	0	22	4-4	30	8	70. 48	NE	506	1-4
15	6	86. 16	SW	341	4-4	31	5	70. 55	NE	321	1-4
16	9	87. 04	SW	190	2-4	Mean.	6. 0				

The following table contains the mean amount of ozone derived from the preceding record:—

Months.	Mean amount of ozone at—	
	Polaris Bay, 1871–72.	Polaris House, 1872–73.
November	....	3.8
December	1.5	5.4
January	1.4	5.6
February	1.9	5.8
March	1.7	5.5
April	1.3	5.8
May	3.8	6.0
June	3.5	....

As far as the observations go, they demonstrate that the mean amount of ozone at Polaris Bay was less by 3.9 than at Polaris House. At both localities, the maximum amount was noted in May. At Polaris Bay, the minimum amount occurred in April, whereas at Polaris House it was observed during February.

In comparing the amount of ozone accumulated during one day with the quantity of wind (given in column 6) which passed over the station during the same period of time, we cannot find any satisfactory relation between the two, either in regard to the direction of the wind or to its velocity. Sometimes the quantity is greater during calms than during gales; sometimes a northeast wind will increase it, and sometimes diminish it; in fact, as we mentioned before, no satisfactory conclusions could be derived. In some instances, we noticed that during snow-drifts, which only occurred when the wind attained a considerable velocity, the amount of ozone was far greater (without regard to the direction of the wind) than when the force of the wind was the same and the snow was not drifting. By melting snow from various localities, and by testing the water produced with nitrate of silver, we invariably obtained a slight precipitation of chloride of silver. The source of the impurity of the snow may be twofold. The northern part of Greenland is rising, and in consequence of this the soil in the vicinity of Polaris Bay is covered with a thin crust of salt, looking sometimes, when found on sandy soil, like a cover of gray lichens. Now, the snow, when drifting over this crust of salt, may carry off particles of it, or it may get mixed with saline matter in drifting over the sea-ice. Electricity will be produced by the drifting snow, and all the more so in consequence of the small percentage of salt contained in it, which, by acting on the oxygen of the air, would transform the latter into ozone.

This explanation would be satisfactory if we had ever been able to trace the slightest amount of electricity at Polaris Bay; but although we had a very delicate electrometer mounted during the winter, and notwithstanding the fact that Mr. Meyer constructed a collecting-apparatus fastened to a high pole and connected with a gold-leaf electroscope, we never succeeded in discovering any electricity in the air, although the instruments were in perfect working order, and tested very frequently.

METEOROLOGICAL OBSERVATIONS TAKEN AT SEA.

1 M O

METEOROLOGICAL OBSERVATIONS DURING THE PASSAGE.

ABSTRACT OF METEOROLOGICAL RECORD KEPT ON BOARD THE UNITED STATES STEAMER POLARIS DURING HER PASSAGE FROM NEW LONDON TO ROBESON CHANNEL.

The following record is an abstract of the meteorological register kept during the passage of the vessel from New London, Conn., to Robeson Channel. In several of the preceding parts of this volume, we took occasion to refer to this document, which furnishes the means to complete most of the meteorological observations for September, 1871. In regard to its arrangement, no further explanation will be needed. We merely limit ourselves to the statement that the velocity of the wind was measured by means of an anemometer, or by one of Casella's current-meters, previously alluded to. The anemometer was placed on the hurricane-deck, where it was deemed to be exposed to the free action of the wind. Up to July 23, the column headed "Wind—Distance" gives the distance traveled since the last observation; after that date, however, the distances given are those traveled by the wind during the last 24 hours.

The observations were made by Sergeant Meyer and the writer, and the following abstract of the record was recovered from the papers of the former, left on board of the vessel when the separation from the ice-floe-party took place.

Date.	Latitude, N.	Longitude, W.	Time.	Barometer reduced.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Wind. Distance.	Amount and kind of clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	State of weather.
1871.	° ′	° ′	h.												
July 3	40 53	72 21	7	30.157	66.0	66.0	64.0	89.0	S	1	74	1-4 ci	NW	0	Fair.
			4	30.111	69.0	69.0	67.0	90.0	SE	8	18	3-4 cum	NE	0	Fair.
			11	30.176	59.3	58.9	57.5	91.0	SW	3	14	4-4 st	0	0	Foggy.
4	41 10	68 24	7	30.126	56.0	56.0	54.0	87.0	E	18	33	3-4 st	N	0	Cloudy.
			4	30.037	62.5	62.5	60.0	86.0	E	18	47	4-4 st	0	0	Foggy.
			11	30.000	58.0	57.5	57.0	97.0	S	3	18	4-4 st	0	0	Foggy.
5	40 58	....	7	30.106	60.5	60.5	59.5	94.0	SW	9	23	4-4 st	0	0	Foggy.
			4	30.154	62.0	62.0	60.2	89.0	SW	1	2	4-4 st	0	0	Foggy.
			11	30.162	56.5	56.5	55.5	94.0	SW	1	3	1-4 st	S	0	Fair.
6	41 40	62 51	7	30.168	59.7	60.0	59.0	97.0	SE	1	7	4-4 st	0	0	Foggy.
			4	30.120	68.7	69.0	67.0	89.6	SW	1	6.5	4-4 st	0	0	Foggy.
			11	30.111	58.9	59.1	57.9	92.0	SW	1	2.5	4-4 st	0	0	Foggy.
7	42 24	59 45	7	30.039	62.0	62.2	61.4	95.0	SE	6	......	2-4 st	N	0	Fair.
			4	29.950	65.9	66.0	64.8	93.5	SW	12	......	3-4 cum., 1-4 st.	0	0	Cloudy.
			11	29.869	61.7	61.7	61.0	96.0	SW	6	......	4-4 st	0	0	Foggy.
8	43 50	56 55	7	29.763	63.5	63.8	63.0	95.3	S	4	......	4-4 st	0	0	Foggy.
			4	29.748	55.1	55.5	54.3	92.0	W	7	......	4-4 st	0	0	Foggy.
			11	29.712	53.0	53.0	52.5	96.5	SW	2	......	2-4 cum.-st.	W	0	Cloudy.
9	....	....	7	29.724	54.0	54.2	53.2	93.3	SE	2	9.0	4-4 st	0	0	Foggy.
			4	29.739	55.0	55.3	53.0	85.1	0	0	5.6	4-4 st	0	0	Foggy.
			11	29.756	48.2	48.5	47.7	93.8	W	6	6.0	4-4 st	0	0	Foggy.
10	46 33	53 36	7	29.846	50.5	51.0	50.0	92.9	NW	9	56.0	4-4 st	0	0	Foggy.
			4	29.859	49.8	49.8	48.0	82.2	SW	18	40.8	3-4 cum	0	0	Cloudy.
			11	29.823	49.2	49.2	47.9	90.0	SW	14	40.0	3-4 cum.-st	0	0	Cloudy.
11	At anchor at St. John's Harbor.		7	29.854	57.5	57.5	53.0	73.3	N	21	26.0	1-4 ci.-cum.	E	0	Fair.
												1-4 cum			
			4	29.924	71.8	71.8	60.2	54.8	NW	13	40.0	0	E	SE	Clear.
			11	29.998	58.2	58.2	51.8	64.0	W	11	41.5	0	0	0	Clear.
12	....do........		7	30.041	61.5	62.0	55.0	65.2	W	15	37.0	1-4 ci., 1-4 cum.	SE	0	Fair.
			4	29.877	68.8	68.8	56.8	51.2	NW	9	37.0	4-4 st	SE	NW	Rain.
			11	29.869	56.9	56.6	50.5	65.2	0	0	51.0	1-4 cum.-st	0	0	Fair.
13	....do........		7	29.747	53.2	53.2	50.2	80.1	0	0	0.0	4-4 nim	0	S	Rain.
			4	29.890	49.8	49.8	47.0	80.2	NE	6	26.0	4-4 st	0	0	Cloudy.
			11	30.017	48.8	48.8	46.2	80.4	NE	4	14.0	4-4 nim	0	0	Rain.
14	....do........		7	30.150	50.5	50.5	47.0	75.8	NE	4	0.5	4-4 st	E	0	Rain.
			4	30.133	53.5	53.8	50.2	75.8	SW	7	46.0	3-4 cum	E	0	Cloudy.
			11	30.167	51.8	51.9	49.0	80.0	W	6	6.0	1-4 cum.-st	0	0	Fair.
15	....do........		7	30.086	58.5	58.8	54.5	74.3	W	9	25.5	3-4 cum	E	0	Cloudy.
												1-4 cum.-st			
			4	29.942	60.5	60.5	57.0	79.7	W	10	32.0	4-4 st	0	E	Rain.
			11	29.829	54.5	54.5	53.2	91.0	W	10	99.7	4-4 st	E	E	Rain.
16	....do........		7	29.697	60.0	60.0	58.5	88.6	SE	6	3.5	4-4 nim	0	0	Rain.
			4	29.503	72.2	72.0	65.2	70.4	NW	7	11.0	1-4 cum	SE	0	Cloudy.
												2-4 ci			
			11	29.654	59.5	60.0	57.0	83.3	W	8	15.5	4-4 st	0	0	Rain.
17	....do........		7	29.743	62.2	62.2	59.5	85.3	0	0	11.0	3-4 ci.-cum	0	0	Cloudy.
			4	29.766	70.5	70.5	59.5	55.6	SW	12	32.3	1-4 st	NE	0	Fair.
			11	29.798	63.3	63.4	60.5	85.0	W	10	19.1	3-4 ci.-st., 1-4 st.	0	0	Cloudy.
18	....do........		7	29.735	64.5	64.5	62.0	86.6	SW	9	5.5	4-4 st	E	NE	Cloudy.
			4	29.746	66.5	66.8	63.2	81.9	W	3	31.5	1-4 cum	E	0	Cloudy.
												3-4 st			
			11	29.845	63.0	63.0	60.0	87.1	W	10	24.0	4-4 st	0	0	Rain.
19	....do........		7	29.987	67.2	67.5	59.0	63.7	W	9	56.9	0	0	0	Clear.
			4	30.045	58.0	57.5	53.0	75.5	S	6	23.0	2-4 ci	0	0	Fair.
			11	30.128	55.3	55.5	52.2	78.8	SW	4	7.4	2-4 cum.-st	NE	NE	Fair.
20	49 33	52.16	7	30.140	52.0	52.0	50.8	92.3	0	0	1.2	1-4 ci	0	0	Cloudy.
												1-4 ci.-cum			
			4	30.155	55.8	56.0	53.0	80.9	E	8	6.7	2-4 ci.-cum., 1-4 st	0	0	Cloudy.
			11	30.131	49.2	49.5	47.8	88.4	SE	5	13.0	4-4 st	0	0	Rain.
21	51 34	51 36 D. R.	7	30.040	48.5	48.5	47.0	88.8	SE	12	19.0	4-4 st	0	0	Foggy.
			4	29.930	46.8	47.0	46.0	92.3	SW	12	9.0	4-4 st	0	0	Foggy.
			11	29.929	46.0	46.1	45.0	91.5	S	5	16.8	4-4 st	0	0	Foggy.
22	53 19	53 30	7	30.011	46.2	46.5	46.0	96.1	NW	10	31.8	4-4 st	0	0	Foggy.
			4	30.151	51.8	51.8	49.2	82.0	NW	2	24.0	1-4 cum.-st	SE	SE	Cloudy.
												3-4 cum			

Date.	Latitude, N.	Longitude, W.	Time.	Barometer reduced.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Wind. Distance.	Amount and kind of clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	State of weather.
1871.	° ′	° ′	h.												
July 22	....	....	11	30.189	48.8	48.8	47.5	90.8	W	1	3.0	4-4 st.	SE	0	Cloudy.
23	....	....	7	30.091	48.5	48.5	48.0	96.2	E	7	136.2*	4-4 nim	0	0	Rain.
			4	30.197	48.8	48.8	47.8	92.6	NE	8	......	3-4 st.	0	0	Cloudy.
			11	30.254	49.2	49.3	48.2	92.0	N	17	......	4-4 st.	0	0	Cloudy.
24	55 42	51 30	7	30.212	47.3	47.5	47.0	96.2	N	6	176.0	4-4 st.	0	0	Fog.
			4	30.111	45.8	45.8	45.2	95.5	NW	12	......	4-4 st.	0	0	Fog.
			11	30.104	47.0	47.0	46.0	92.3	NW	15	......	1-4 st.	0	0	Cloudy.
25	58 21	52 14	7	30.068	48.0	48.0	46.8	91.0	NW	19	347.0	1-4 cum	0	0	Fair.
			4	30.032	50.8	51.0	48.0	79.0	NW	13	......	2-4 ci.-cum	0	0	Fair.
			11	29.968	47.8	47.8	45.7	84.6	NW	12	......	1-4 st.	0	0	Fair.
26	60 39	52 55	7	29.928	47.0	47.0	45.0	86.6	NW	10	385.0	0	0	0	Clear.
			4	29.820	52.8	52.8	48.8	86.0	N	1	......	4-4 cum	0	0	Cloudy.
			11	29.753	48.6	48.6	46.4	89.7	E	3	......	4-4 cum	0	0	Cloudy.
27	63 05	52 10	7	29.747	43.9	43.9	41.2	77.4	E	12	165.0	1-4 st.	0	0	Fair.
	At anchor at Fiskernaesset.		4	29.788	54.8	54.8	45.8	44.5	SE	4	......	4-4 cum	0	0	Cloudy.
			11	29.796	49.0	49.0	44.0	63.8	SE	2	......	4-4 cum	0	0	Cloudy.
28	....do		7	29.772	45.8	45.8	43.0	78.0	S	7	208.5	1-4 cum	0	0	Fair.
			4	29.821	43.2	43.2	42.0	89.5	0	0	......	3-4 st.	E	0	Cloudy.
			11	29.959	42.8	42.8	41.0	84.5	W	4	......	3-4 cum	0	0	Rain.
29	....do		7	30.006	44.4	44.0	42.2	84.8	NW	4	48.5	1-4 ci.	NE	0	Fair.
			4	29.800	42.0	42.0	40.5	87.1	SW	15	......	3-4 st.	0	0	Rain.
			11	29.659	41.6	41.6	41.2	97.4	SW	30	......	1-4 nim 3-4 nim	0	0	Rain.
30	65 16	53 47	7	29.919	44.2	44.2	41.8	80.5	NW	9	335.0	2-4 ci.-cum	0	0	Cloudy.
			4	29.955	48.5	48.5	44.8	73.0	NW	12	......	1-4 cum 1-4 ci. 2-4 cum	0	0	Cloudy.
			11	....	......	......	......	......	......	...	......		......	......	....
31	66 50	53 54	7	29.739	45.5	45.5	42.4	75.7	NE	9	288.0	1-4 ci.-cum 3-4 st.	0	0	Cloudy.
	At anchor at Holsteinborg.		4	29.549	60.8	60.8	51.0	46.2	NE	6	......	0	0	0	Clear.
			11	29.689	50.5	50.5	44.8	60.8	N	9	......	0	0	0	Clear.
Aug. 1	....do		7	29.729	49.0	49.0	41.8	49.5	N	4	130.0	0	0	0	Clear.
			4	29.831	51.2	51.0	45.0	59.0	N	12	......	1-4 cum	0	0	Fair.
			11	29.922	45.0	45.0	39.1	53.9	N	3	......	1-4 cum.-st	0	0	Fair.
2	....do		7	30.084	44.5	45.0	41.6	72.7	NW	4	131.0	0	0	0	Clear.
			4	30.099	50.0	50.0	42.5	48.2	0	0	......	0	0	0	Clear.
			11	30.039	45.0	45.0	40.0	60.7	0	0	......	1-4 st.	0	0	Fair.
3	....do		7	29.944	51.2	51.2	44.8	56.8	N	6	118.0	0	0	0	Clear.
			4	29.858	50.5	50.0	44.8	63.6	N	14	......	4-4 st.	0	0	Cloudy.
			11	29.852	43.2	43.2	40.0	73.4	NE	11	......	0	0	0	Clear.
4	69 14	53 34	7	29.839	44.0	44.0	41.3	79.6	NE	11	277.0	1-4 ci	0	0	Fair.
	At anchor at Goodhavn.		4	29.865	48.2	48.2	45.0	80.5	NE	6	......	4-4 st.	0	0	Cloudy.
			11	29.870	46.5	46.5	41.0	67.0	NE	12	......	4-4 cum	W	0	Cloudy.
5	....do		7	29.912	46.5	46.5	42.8	77.0	E	7	235.0	4-4 cum	SW	0	Cloudy.
			4	29.838	55.8	55.8	45.3	52.7	E	12	......	1-4 ci	0	0	Fair.
			11	29.754	50.0	50.0	43.2	61.4	E	13	......	1-4 ci.-st.	0	0	Fair.
6	....do		7	29.788	46.0	45.5	43.0	86.3	NE	20	342.0	3-4 cum	SW	0	Cloudy.
			4	29.792	51.0	50.8	41.3	61.5	W	7	......	2-4 ci.-cum	0	0	Fair.
			11	29.823	44.5	44.5	41.2	79.6	W	5	......	2-4 ci.-st., 1-4 st.	0	0	Fair.
7	....do		7	29.914	50.3	50.0	44.3	65.9	SW	6	186.0	3-4 ci.	0	0	Cloudy.
			4	29.969	53.0	53.0	45.3	57.5	W	8	......	1-4 ci	0	0	Fair.
			11	30.007	47.8	47.8	43.2	69.6	0	0	......	1-4 ci.-cum 1-4 ci-cum 1-4 st.	0	0	Fair.
8	....do		7	29.965	47.5	47.5	44.2	80.4	0	0	78.0	3-4 cum	0	0	Cloudy.
			4	29.939	51.0	51.0	46.0	70.8	0	0	.....	4-4 st.	0	0	Cloudy.
			11	29.886	46.0	46.0	43.3	80.3	0	0	......	4-4 ci.-st.	0	0	Cloudy.
9	....do		7	29.963	46.2	46.2	42.0	74.5	E	12	63.0	0	0	0	Clear.
			4	30.034	46.0	46.0	43.0	80.3	SE	3	......	1-4 st., 2-4 ci.-cu.	0	0	Fair.
			11	30.042	43.5	43.5	41.5	85.9	E	6	......	4-4 st.	0	0	Foggy.
10	....do		7	30.013	47.0	47.0	44.0	80.4	E	6	......	1-4 ci-cu., 3-4 st.	0	0	Cloudy.
			4	29.942	49.5	49.5	43.0	64.7	E	9	......	4-4 st.	0	0	Foggy.
			11	29.919	49.0	49.0	45.0	74.9	NW	11	......	4-4 st.	0	0	Foggy.

* From this day, the distance traveled by the wind is given for the last twenty-four hours.

Date.	Latitude, N.	Longitude, W.	Time.	Barometer reduced.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Wind. Distance.	Amount and kind of clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	State of weather.
1871.	° ′	° ′	h.												
Aug. 11	At anchor at Goodhavn.		7	29.909	45.2	45.2	44.0	93.1	0	0	......	1-4 nim........	0	0	Rain.
			4	29.801	47.0	47.0	43.5	77.6	E	14	......	4-4 st..........	0	0	Foggy.
			11	29.657	47.8	47.8	45.0	80.5	SE	21	......	4-4 st..........	0	0	Foggy.
12	....do..........		7	29.510	45.2	45.2	44.2	93.1	0	0	......	4-4 st..........	......	......	Foggy.
			4	29.671	42.3	42.3	41.3	92.7	0	0	......	4-4 nim........	......	......	Rain.
			11	29.891	39.5	39.5	38.5	91.7	W	12	......	4-4 st..........	......	......	Fog.
13	....do..........		7	30.133	45.0	45.0	43.5	89.8	0	0	231.0	1-4 ci.......... 2-4 cum	......	......	Cloudy.
			4	30.046	47.2	47.2	43.4	74.7	E	12	......	1-4 cum., 3-4 st.	......	......	Cloudy.
			11	29.967	45.0	45.0	41.0	74.2	E	2	......	4-4 st..........	......	......	Cloudy.
14	....	....	....	....	......	......	......	......	......	...	......	....	......	......	....
			....	....	......	......	......	......	......	...	......	....	......	......	....
			....	....	......	......	......	......	......	...	......	....	......	......	....
15	....	....	....	....	......	......	......	......	......	...	......	....	......	......	....
			....	....	......	......	......	......	......	...	......	....	......	......	....
			....	....	......	......	......	......	......	...	......	....	......	......	....
16	....	....	....	....	......	......	......	......	......	...	......	....	......	......	....
			....	....	......	......	......	......	......	...	......	....	......	......	....
			....	....	......	......	......	......	......	...	......	....	......	......	....
17	69 14	53 49	7	30.071	48.0	48.0	43.0	69.6	E	18	135.0	0	0	0	Clear.
			4	30.112	55.4	55.4	49.5	70.7	E	5	......	1-4 ci.-cum .... 2-4 cum	0	0	Cloudy.
			11	30.133	48.0	48.0	44.5	77.8	SE	4	......	4-4 cum	0	0	Cloudy.
18	....	55 32	7	30.145	46.0	46.0	42.0	74.5	SE	2	186.0	4-4 cum	0	0	Cloudy.
			4	30.153	46.2	46.2	43.0	83.0	NE	6	......	4-4 cum	0	0	Cloudy.
			11	30.130	45.3	45.3	42.8	83.2	N	9	......	2-4 st..........	0	0	Fair.
19	72 46	56 09	7	30.075	49.5	49.5	42.8	60.1	NE	7	......	0	0	0	Clear.
	At anchor at Upernivik.		4	30.004	50.5	50.5	44.0	65.9	NE	1	......	0	0	0	Clear.
			11	30.010	48.8	48.8	42.3	60.1	E	12	......	0	0	0	Clear.
20	....do..........		7	30.063	49.0	49.0	41.0	50.6	E	19	213.0	0	0	0	Clear.
			4	30.006	52.0	52.0	47.0	73.9	E	6	......	0	0	0	Clear.
			11	30.041	51.0	51.0	42.7	53.4	E	10	......	0	0	0	Clear.
21	....do..........		7	30.128	58.0	58.0	48.0	55.9	SW	1	192.0	0	0	0	Clear.
			4	30.102	57.5	57.5	49.8	43.4	0	0	......	0	0	0	Clear.
			11	30.105	49.0	49.0	42.8	36.4	NE	5	......	0	0	0	Clear.
22	73 22	56 13	7	30.121	48.2	47.8	43.5	72.0	N	4	47.0	0	0	0	Clear.
	At anchor at Tessiusak.		4	30.077	48.0	48.0	43.0	69.6	0	0	......	0	0	0	Clear.
			11	30.046	42.2	42.8	39.2	76.6	0	0	......	0	0	0	Clear.
23	....do		7	30.023	40.0	40.0	38.0	85.8	0	0	9.0	0	0	0	Clear.
			4	29.983	46.0	45.0	44.0	93.1	0	0	......	4-4 st..........	0	0	Clear.
			11	29.940	34.0	34.0	32.5	87.4	0	0	......	4-4 st..........	0	0	Foggy.
24	....do..........		7	29.857	35.2	35.2	34.0	93.2	0	0	10.0	4-4 st..........	0	0	Foggy.
			4	29.775	38.8	38.8	36.2	73.4	W	9	......	4-4 st..........	0	0	Foggy.
			11	29.713	34.9	35.0	34.2	91.6	NW	12	......	4-4 st..........	0	0	Foggy.
25	74 54	62 01	7	29.643	37.8	37.8	36.6	91.7	NW	1	167.0	4-4 st..........	0	0	Foggy.
			4	29.664	39.5	39.5	36.5	79.3	N	14	......	0	0	0	Foggy.
			11	29.703	38.8	38.8	35.2	73.6	N	16	......	4-4 st..........	0	0	Clear.
26	75 56	69 37	7	29.764	42.1	43.2	38.2	68.0	E	1	167.0	0	0	0	Cloudy.
			4	29.693	46.8	46.8	40.8	59.8	N	18	......	1-4 ci.-st.	0	0	Clear.
			11	29.659	34.5	34.5	32.2	80.0	0	0	......	2-4 ci...	0	0	Fair.
27	77 51	73 00	7	29.650	37.8	37.5	35.2	83.9	NNW	12	229.0	1-4 st..........	0	0	Fair.
			4	29.670	44.2	44.0	42.8	92.9	N	12	......	1-4 st..........	0	0	Fair.
			11	29.706	38.0	38.0	37.8	95.8	NNE	6	......	0	0	0	Fair.
28	....	....	7	29.813	39.0	39.0	36.3	76.9	N	12	362.0	3-4 cum	0	0	Clear.
			4	29.892	35.2	35.2	33.8	91.6	N	16	......	4-4 st..........	0	0	Cloudy.
			11	29.880	33.0	33.0	31.9	90.6	N	14	......	4-4 st..........	0	0	Cloudy.
29	81 20	64 20	7	29.894	35.8	35.8	34.1	83.8	N	14	335.0	2-4 st..........	0	0	Cloudy.
			4	29.824	33.5	32.5	31.8	90.6	N	18	......	2-4 cum .... 2-4 st..........	0	0	Fair.
			11	29.833	31.2	31.0	30.5	92.6	N	18	......	4-4 st..........	0	0	Cloudy.
30	....	....	7	29.853	30.8	30.8	29.8	89.2	N	12	371.0	4-4 st..........	0	0	Fog.
			4	29.829	29.2	29.2	28.2	88.8	N	7	......	4-4 st..........	0	0	Fog.
			11	29.845	30.5	31.0	29.0	78.8	N	7	......	4-4 st..........	0	0	Fog.
31	....	....	7	29.887	29.2	28.8	28.0	91.0	NW	1	113.0	4-4 st..........	0	0	Fog.
			4	29.942	29.5	29.2	28.5	92.2	NW	8	......	4-4 st..........	0	0	Fog.
			11	29.956	29.0	28.8	28.0	91.0	0	0	......	4-4 st..........	0	0	Fog.

Date.	Latitude, N.	Longitude, W.	Time.	Barometer reduced.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Wind. Distance.	Amount and kind of clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	State of weather.
1871.	° ′	° ′	h.												
Sept. 1	....	....	7	29.840	25.5	25.0	23.3	78.5	N	7	62.0	4-4 st.	0	0	Foggy.
			4	29.686	25.2	24.5	23.8	91.6	N	12	......	4-4 st.	0	0	Cloudy.
			11	29.599	27.0	26.7	25.1	80.7	N	9	......	4-4 st.	0	0	Cloudy.
2	....	....	7	29.513	29.5	29.5	27.2	74.6	NE	13	284.0	4-4 st.	0	0	Foggy.
			4	29.570	29.0	29.0	28.0	88.7	SW	5	......	4-4 st.	0	0	Cloudy.
			11	....	.....	.....	.....	.....	.....	...	......	....	.....	.....	....
3	....	....	7	....	.....	.....	.....	.....	.....	...	......	....	.....	.....	....
			4	....	.....	.....	.....	.....	.....	...	......	....	.....	.....	....
			11	29.815	28.0	28.0	27.0	88.3	SW	4	......	4-4 st.	0	0	Cloudy.
4	Anchored at Polaris Bay at midnight.		7	29.797	31.0	30.0	29.0	89.0	0	0	......	3-4 ci.-cum. 1-4 st.	0	0	Cloudy.
			4	29.707	26.0	25.5	24.5	87.4	N	14	......	4-4 st.	0	0	Cloudy.
			11	29.689	......	......	......	......	NE	9	......	1-4 st. 3-4 cum.	0	0	Cloudy.
5	....	....	7	29.681	25.5	24.5	24.0	93.6	SE	6	222.0	4-4 st.	0	0	Cloudy.
			4	29.740	24.5	23.8	22.8	86.8	NW	4	......	4-4 st.	0	0	Cloudy.
			11	29.775	23.0	22.8	21.8	86.4	0	0	......	4-4 st.	0	0	Cloudy.
6	....	....	7	29.818	23.3	23.0	22.0	86.4	NE	5	57.0	4-4 st.	0	0	Cloudy.
			4	....	.....	.....	.....	.....	.....	...	......	....	.....	.....	....
			11	29.833	25.5	25.2	24.2	87.3	NE	3	......	3-4 st.	0	0	Cloudy.
7	....	....	7	29.864	26.5	26.2	23.5	66.7	SW	14	228.0	4-4 st.	0	0	Cloudy.
			4	29.840	26.8	26.5	25.5	87.8	SW	14	......	4-4 st.	0	0	Foggy.
			11	29.820	27.0	27.2	25.2	76.2	SW	0	......	4-4 st.	0	0	Cloudy.
8	....	....	7	29.753	28.0	27.5	26.0	82.4	SW	6	175.0	4-4 st.	0	0	Cloudy.
			4	29.744	28.2	28.0	26.0	76.8	SW	8	......	3-4 cum. 1-4 st.	0	0	Cloudy.
			11	29.730	28.0	28.0	26.2	79.2	SW	7	......	4-4 st.	0	0	Cloudy.
9	....	....	7	....	27.2	26.5	25.8	......	SW	12	256.0	4-4 st.	0	0	Cloudy.
			4	....	.....	.....	.....	.....	.....	...	......	....	.....	.....	....
			11	....	......	21.0	20.3	......	SE	0	......	4-4 st.	0	0	Cloudy.
10	....	....	7	29.573	18.1	18.0	17.2	77.5	0	0	65.0	4-4 st.	0	0	Cloudy.
			4	29.636	23.6	23.5	22.0	67.3	W	1	......	4-4 st.	0	0	Cloudy.
			11	29.672	20.6	20.5	19.5	74.2	SW	7	......	4-4 st.	0	0	Cloudy.
11	....	....	7	29.685	13.4	13.0	12.2	77.0	SE	9	55.0	3-4 cum.	0	0	Cloudy.
			4	29.714	15.1	15.0	14.8	93.5	0	0	......	4-4 st.	E	0	Cloudy.
			11	29.792	15.6	15.1	14.2	74.1	NW	0	......	2-4 cum.-st.	0	0	Cloudy.
12	....	....	7	29.904	21.6	22.0	20.3	61.9	W	12	76.0	1-4 ci. 1-4 cum.	0	0	Cloudy.
			4	29.974	21.8	21.2	20.0	71.1	SW	12	......	3-4 st.	0	0	Cloudy.
			11	30.017	18.8	18.8	17.2	66.9	SW	14	......	4-4 st.	0	0	Cloudy.
13	....	....	7	30.074	19.8	19.8	18.6	69.5	0	0	236.0	1-4 ci. 1-4 st.	0	0	Fair.
			4	30.113	17.4	16.9	16.0	75.6	SW	0	......	2-4 st.	0	0	Fair.
			11	30.115	15.9	15.4	15.0	88.1	SW	3	......	4-4 st.	0	0	Cloudy.
14	....	....	7	29.997	16.4	16.0	15.5	84.8	S	4	46.0	1-4 cum.	0	0	Fair.
			4	29.881	21.3	20.9	20.0	79.1	SW	11	......	1-4 cum.-st.	NE	0	Fair.
			11	29.820	20.5	19.9	18.3	67.4	SW	21	......	1-4 st.	0	0	Fair.
15	....	....	7	29.808	24.1	24.0	23.5	88.0	SW	18	241.0	4-4 st.	0	0	Cloudy.
			4	29.987	25.6	25.4	24.6	83.4	SW	0	......	4-4 st.	0	0	Cloudy.
			11	30.074	24.1	24.5	23.0	78.3	SW	9	......	2-4 cum.	0	0	Cloudy.
16	....	....	7	30.276	25.7	26.0	25.0	80.1	SW	11	138.0	4-4 st.	0	0	Cloudy.
			4	30.249	22.7	22.2	21.1	74.3	SE	0	......	1-4 st.	0	0	Fair.
			11	30.175	19.3	18.9	18.0	75.8	SE	11	......	2-4 st.	0	0	Fair.
17	....	....	7	30.083	20.1	20.0	19.0	74.4	0	0	113.0	1-4 st.	N	0	Fair.
			4	30.068	15.6	15.0	13.8	67.6	0	0	......	1-4 st.	E	0	Fair.
			11	30.187	15.6	15.5	14.5	71.8	W	4	......	1-4 st.	E	0	Fair.
18	....	....	7	30.359	20.6	20.0	19.5	86.0	0	0	24.0	1-4 ci. 1-4 cum.-st.	0	0	Fair.
			4	30.348	27.4	27.5	26.5	82.3	W	14	......	0	0	0	Clear.
			11	30.366	24.6	25.0	24.0	78.7	W	9	......	0	0	0	Clear.
19	....	....	7	30.426	24.1	24.5	23.2	73.0	E	1	71.0	1-4 st.	0	0	Fair.
			4	30.388	22.5	22.9	22.0	78.4	0	0	......	1-4 ci. 2-4 cum.	0	0	Fair.
			11	30.411	15.6	15.5	15.0	84.5	0	0	......	3-4 cum.-st.	0	0	Cloudy.
20	....	....	7	30.366	27.1	27.0	25.5	73.6	E	3	77.0	3-4 cum.-st.	0	0	Cloudy.
			4	30.278	29.5	29.4	28.0	79.7	E	4	......	4-4 st.	0	0	Cloudy.

Date.	Latitude, N.	Longitude, W.	Time.	Barometer reduced.	Exposed thermometer.	Psychrometer.		Relative humidity.	Wind.			Amount and kind of clouds.	Direction of clouds.		State of weather.
						Dry.	Wet.		Direction.	Velocity.	Distance.		Upper.	Lower.	
1871.	° ′	° ′	h.												
Sept. 20	....	....	11	30.278	31.4	30.7	30.5	95.3	0	0	......	3-4 cu.-st., 1-4 st.	0	0	Cloudy.
21	....	....	7	30.227	30.8	30.8	30.2	92.1	E	4	87.0	4-4 st	0	0	Cloudy.
			4	30.122	26.4	25.5	25.1	91.1	0	0	......	3-4 cum.-st	0	0	Cloudy.
			11	30.038	34.6	35.0	34.0	90.9	0	0	......	1-4 st	0	0	Fair.
22	....	....	7	29.964	34.4	34.6	32.6	82.6	E	18	48.0	2-4 cum.-st	0	0	Fair.
			4	30.158	31.2	31.3	29.1	75.2	W	3	......	1-4 st	W	......	Fair.
			11	30.251	25.2	25.1	24.8	92.9	0	0	......	1-4 ci.-cum	0	0	Fair.
23	....	....	7	30.299	24.1	24.0	23.0	77.3	E	5	123.0	2-4 cum	0	0	Fair.
			4	30.343	24.0	23.3	22.5	80.9	0	0	......	4-4 st	0	0	Cloudy.
			11	30.324	23.6	24.0	22.8	73.3	0	0	......	4-1 st	0	0	Cloudy.
24	....	....	7	30.314	20.6	20.0	19.5	86.0	0	0	29.0	3-4 st	0	0	Cloudy.
			4	30.342	22.8	22.3	22.0	92.2	0	0	......	3-4 st	0	0	Cloudy.
												1-4 cum.-st			
			11	30.449	23.3	22.8	21.7	74.1	SE	2	......	4-4 st	0	0	Cloudy.
25	....	....	7	30.521	21.8	22.0	21.3	82.7	0	0	15.0	4-4 st	0	0	Cloudy.
			4	30.483	19.4	19.0	18.2	77.6	W	2	......	1-4 st	E	0	Fair.
			11	30.455	19.6	20.0	19.5	86.0	S	1	......	1-4 st	0	0	Fair.
26	....	....	7	30.387	16.9	16.2	15.9	91.1	SE	3	39.0	1-4 st	0	0	Fair.
			4	30.292	15.5	15.1	14.5	82.4	E	5	......	4-4 st	0	0	Cloudy.
			11	30.156	14.5	13.8	13.2	81.5	E	10	......	4-4 st	0	0	Cloudy.
27	....	....	7	30.062	20.1	20.0	19.5	86.0	W	4	117.0	4-4 st	0	0	Cloudy.
			4	29.961	25.6	26.0	25.5	89.4	SW	11	......	4-4 st	0	0	Cloudy.
			11	29.936	25.1	25.5	25.0	89.2	SW	12	......	4-4 st	0	0	Cloudy.
28	....	....	7	29.938	27.1	27.5	27.0	90.6	SW	9	290.0	4-4 st	0	0	Cloudy.
			4	29.885	28.1	28.2	27.6	89.7	SW	11	......	4-4 st	0	0	Cloudy.
			11	29.869	27.1	27.3	26.4	83.9	SW	12	......	4-4 st	0	0	Cloudy.
29	....	....	7	29.822	25.6	26.0	25.2	83.8	SE	3	155.0	4-4 st	0	0	Cloudy.
			4	29.803	15.6	15.5	15.0	84.5	NE	12	......	4-4 st	0	0	Cloudy.
			11	29.743	14.6	14.5	14.2	90.5	NE	27	......	3-4 st	0	0	Cloudy.
30	....	....	7	29.764	12.9	13.0	12.5	85.0	NE	24	......	3-4 st	0	0	Cloudy.
			4	29.800	14.8	14.0	14.0	84.8	NE	14	......	3-4 st	0	0	Cloudy.
			11	29.853	14.1	14.5	13.3	66.9	N	16	......	4-4 st	0	0	Cloudy.

METEOROLOGICAL OBSERVATIONS AT NEWMAN'S BAY.

The following meteorological record was kept during our stay at Newman's Bay when on the boat-journey northward. The observations were mostly taken at intervals of four hours; in some instances, however, more frequently. We chose Polaris Bay mean time in order to make the observations taken at both stations more strictly comparable. The record kept by the writer extended originally over a longer period of time, but the only observations recovered are those given hereafter. The barometer used is a Casella pocket-instrument that had been compared with the standard at the Polaris Bay observatory previous to our leaving the vessel and after our return to winter-quarters. The thermometer indicating the temperature of the air and the psychrometer were compared also, and in every instance the corrected readings entered in the register. The velocity of the wind was partly estimated, partly determined by means of one of Casella's current-meters. We think that our estimates are pretty reliable, as much experience had enabled us to estimate the velocity of the wind very closely. A number of experiments seemed to demonstrate that in no instance did the velocity as measured by an anemometer differ more than 4 per cent. from that based on estimation; and, as the highest wind observed at Newman's Bay did not exceed twenty miles per hour, the error may be considered to be very small. The quantity of ozone was determined by means of Schoenbein's test-paper, which was kept exposed in a small wire-cage made for the purpose. The solar thermometer was a common thermometer as used to measure the temperature of the air, having its bulb and a part of its stem blackened with India ink. The instrument was exposed on cotton, resting on the sea-ice, as was the case with our instruments at Polaris Bay and at Polaris House. As the stand made for the thermometer fell overboard and was crushed by the ice, we were unable to fix the instrument otherwise than by laying it on a flat box, about six inches high, over the edge of which the stem of the thermometer projected about four inches.

The latitude of our camp on the land-floe was found to be 81° 55′ 54″ north, and the longitude $4^h\ 5^m\ 24^s$ west.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer.		Wind.		Amount and kind of clouds.	Direction of clouds.		Ozonometer.	Rain or snow.	Black bulb (free).	State of weather.
				Dry.	Wet.	Direction.	Velocity.		Upper.	Lower.				
1872.	h.	Inches.	°	°	°								°	
June 14	1 p. m.[1]	30.019	+ 46.3	+ 46.4	+ 41.9	0	0	1-4 cu. and ci.-cu. 1-4 st	0	0	4½	.....	+ 75.2	Cloudy.
	2 p. m.[2]	30.025	38.9	38.8	35.2	N	½	1-4 cu. and ci.-cu. 1-4 st	0	0	.....	.....	66.8	Cloudy.
	3 p. m...	30.022	37.8	37.8	34.7	0	0	1-4 cu. and ci.-cu. 1-4 st	0	0	.....	.....	64.3	Cloudy.
	4 p. m...	30.030	33.1	32.9	31.3	NW	2	1-4 cum .... 2-4 st	0	0	.....	.....	44.6	Cloudy.
	5 p. m...	30.046	32.9	33.0	31.9	NW	2	1-4 cum .... 3-4 st	0	0	.....	.....	46.5	Cloudy.
	6 p. m...	30.030	33.3	33.0	32.0	N	3	1-4 cum .... 3-4 st	0	0	.....	.....	45.0	Cloudy.
	7 p. m...	30.038	31.0	30.9	30.2	NW	5	1-4 cum .... 3-4 st	0	0	.....	.....	39.4	Cloudy.
	8 p. m...	30.028	30.1	30.1	29.5	NW	4	1-4 cum .... 3-4 st	0	0	.....	.....	34.8	Cloudy.
	9 p. m...	30.046	30.1	29.8	29.0	NW	5	4-4 st	0	0	.....	.....	34.6	Cloudy.
	10 p. m...	30.049	29.9	29.8	29.0	NW	3	4-4 st	0	0	.....	.....	33.8	Cloudy.
	11 p. m.[3]	30.040	30.9	30.8	30.0	NW	5	2-4 cum .... 1-4 st	0	0	.....	.....	34.2	Cloudy.
15	8 a. m...	30.039	34.2	34.0	32.9	NW	2	1-4 cum .... 1-4 st	0	0	.....	.....	39.9	Fair.
	11 a. m...	30.046	36.8	36.5	33.8	NW	½	1-4 st	0	0	6	.....	43.5	Fair.
	2 p. m...	30.006	39.9	39.9	39.0	NW	½	1-4 st	0	0	.....	.....	52.4	Fair.
	5 p. m...	29.930	36.0	36.2	35.1	NW	2	2-4 st	0	0	.....	.....	44.0	Fair.
	8 p. m...	29.927	33.0	33.0	32.6	NW	3	Ci .... 1-4 st	0	0	.....	.....	40.6	Fair.
	11 p. m...	29.958	40.1	39.9	38.0	0	0	St	0	0	.....	.....	60.3	Clear.
16	8 a. m...	29.950	37.0	37.1	35.9	W	2	St	0	0	.....	.....	64.0	Clear.
	11 a. m.[4]	29.920	36.5	36.3	33.1	SW	3	0	0	0	6½	.....	76.2	Clear.
	2 p. m...	29.900	37.0	37.2	34.6	SW	3	St	0	0	.....	.....	63.8	Clear.
	5 p. m...	29.897	35.1	35.0	32.0	S	2	St	0	0	.....	.....	56.7	Clear.
	8 p. m...	29.910	37.0	37.2	34.6	0	0	St	0	0	.....	.....	49.5	Clear.
	11 p. m...	29.915	36.2	36.1	34.0	0	0	0	0	0	.....	.....	48.3	Clear.
17	8 a. m.[5]	29.987	36.7	36.6	33.7	SW	10	1-4 ci.-st .... 1-4 st	0	0	8½	.....	56.9	Fair.
	11 a. m...	29.980	34.4	34.1	32.8	SW	8	1-4 ci.-st .... 1-4 st	0	0	.....	.....	59.8	Fair.
	2 p. m...	29.972	33.9	34.3	32.1	SW	11	2-4 cum .... 2-4 st	E	E	.....	.....	48.9	Cloudy.
	5 p. m...	29.960	35.9	36.4	33.5	SW	5	1-4 st. and ci.-cu.	E	0	.....	.....	58.8	Fair.
	8 p. m...	29.990	31.9	32.2	30.8	SW	8	2-4 cum .... 1-4 st	N	0	.....	.....	44.4	Cloudy.
	11 p. m...	29.993	31.9	31.9	31.0	SW	8	1-4 cum .... 2-4 st	0	0	.....	.....	35.8	Cloudy.
18	8 a. m...	29.998	34.4	34.6	33.0	SW	9	1-4 cum .... 2-4 st	0	0	.....	.....	39.2	Cloudy.
	11 a. m.[6]	30.015	36.3	36.2	33.8	SW	7	1-4 cum .... 1-4 st	0	0	6	.....	82.8	Fair.
	2 p. m...	30.010	34.0	34.1	32.4	SW	5	1-4 cum .... 2-4 st	0	0	.....	.....	58.2	Cloudy.
	5 p. m...	30.013	32.5	32.4	31.3	SW	13	3-4 st. and cum.	0	0	.....	.....	44.8	Cloudy.
	8 p. m...	30.014	33.1	33.3	32.6	S	15	3-4 st	0	0	.....	.....	40.1	Cloudy.
	11 p. m...	29.997	33.0	32.9	32.4	S	19	3-4 st	0	0	.....	.....	36.2	Cloudy.
19	8 a. m.[7]	29.970	36.0	36.2	35.0	S	12	2-4 cum .... 1-4 st	0	0	9	.....	37.9	Cloudy.
	11 a. m...	29.865	39.6	39.3	31.8	SE	10	1-4 cu. and ci.-cu. 1-4 st	0	0	.....	.....	102.0	Cloudy.
	2 p. m...	29.845	+ 35.1	+ 35.0	+ 33.1	SW	8	2-4 cum .... 1-4 st	0	0	.....	.....	+ 56.3	Cloudy.

REMARKS.

(1) Test paper exposed since 11h 30m last night.
(2) Max. temp. = + 50°.9; Min. temp. = + 30°.8 } since 11h 30m June 13.
(3) Max. temp. = + 46°.7; Min. temp. = + 28°.9 } since 1h p. m.
(4) Max. temp. = + 43°.6; min. temp. = + 34°.9.
(5) Max. temp. = + 43°.4; Min. temp. = + 39°.5 } since 11h last night.
(6) Max. temp. = + 39°.2; min. temp. = + 30°.5.
(7) Max. temp. = + 40°.4; min. temp. = + 28°.9.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer.		Wind.		Amount and kind of clouds.	Direction of clouds.		Ozonometer.	Rain or snow.	Black bulb (free).	State of weather.
				Dry.	Wet.	Direction.	Velocity.		Upper.	Lower.				
1872.	*h.*	*Inches.*	°	°	°								°	
June 19	5 p. m...	29. 836	+ 35. 6	+ 35. 5	+ 33. 0	W	6	3-4 st..........	0	0	.....	.....	+ 52. 1	Cloudy.
	8 p. m...	29. 810	34. 6	34. 9	32. 8	S	4	1-4 cum..........	0	0	.....	.....	41. 0	Cloudy.
	11 p. m...	29. 768	37. 0	36. 8	34. 1	0	0	3-4 st. .... 1-4 cum..........	0	0	.....	.....	42. 9	Cloudy.
20	8 a. m. (1)	29. 761	34. 2	34. 0	33. 1	0	0	3-4 st. .... 1-4 ci..........	0	0	6	.....	45. 4	Cloudy.
	11 a. m...	29. 750	37. 0	36. 4	34. 8	W	1	2-4 cum.......... 1-4 cum..........	0	0	.....	.....	52. 2	Cloudy.
	2 p. m...	29. 757	34. 5	34. 4	33. 2	NW	7	3-4 st. .... 1-4 cum..........	0	0	.....	.....	55. 1	Cloudy.
	5 p. m...	29. 763	38. 7	38. 9	36. 4	NW	10	3-4 st. .... 1-4 cum..........	0	0	.....	.....	48. 0	Cloudy.
	8 p. m...	29. 784	38. 0	37. 8	35. 0	NW	16	1-4 st. .... 2-4 cum..........	0	0	.....	.....	40. 1	Cloudy.
	11 p. m...	29. 825	27. 9	28. 0	27. 2	NW	15	1-4 st.......... 4-4 st..........	0	0	.....	.....	33. 0	Cloudy.
21	8 a. m. (2)	....	33. 0	32. 8	31. 6	NW	12	4-4 st..........	0	0	8	.....	....	Cloudy.
	11 a. m...	29. 782	28. 9	29. 1	28. 2	NW	15	4-4 st..........	0	0	.....	.....	44. 2	Cloudy.
	2 p. m...	29. 625	29. 9	29. 8	29. 4	NW	15	4-4 st..........	0	0	.....	.....	43. 8	Lt. snow.
	5 p. m...	29. 610	28. 4	29. 2	29. 0	NW	17	4-4 st..........	0	0	.....	.....	42. 2	Lt. snow.
	8 p. m...	29. 600	27. 9	27. 9	27. 2	NW	15	4-4 st..........	0	0	.....	.....	36. 8	Lt. snow.
	11 p. m...	29. 580	27. 1	27. 0	26. 3	NW	15	4-4 st..........	0	0	.....	0i.005	32. 2	Lt. snow.
22	8 a. m. (3)	....	35. 1	34. 8	33. 9	N	10	3-4 st..........	0	0	7	.....	57. 9	Cloudy.
	11 a. m...	29. 548	30. 4	30. 9	30. 0	N	6	1-4 cum..........	0	0	.....	.....	59. 3	Cloudy.
	2 p. m...	29. 546	31. 4	31. 2	30. 8	N	8	3-4 st. .... 3-4 cum. and st.	0	0	.....	.....	55. 2	Cloudy.
	5 p. m...	29. 553	36. 8	36. 3	33. 2	NE	3	1-4 cum. and st.	0	0	.....	.....	50. 8	Fair.
	8 p. m...	29. 565	30. 0	29. 4	28. 0	0	0	1-4 cum. and st.	0	0	.....	.....	52. 0	Fair.
	11 p. m...	29. 543	30. 2	29. 5	28. 0	N	2	1-4 cum. and st.	0	0	.....	.....	40. 8	Fair.
23	8 a. m...	29. 570	36. 4	36. 2	35. 6	N	5	2-4 cum..........	0	0	7½	.....	50. 2	Fair.
	11 a. m...	29. 568	35. 8	35. 7	34. 0	N	14	3-4 cum..........	NE	0	.....	.....	58. 0	Cloudy.
	2 p. m. (4)	29. 550	30. 0	30. 2	28. 6	N	20	1-4 ci.-cum.....	0	0	.....	.....	59. 6	Fair.
	5 p. m...	29. 563	29. 9	29. 9	29. 3	N	10	1-4 st..........	0	0	.....	.....	52. 8	Fair.
	8 p. m...	29. 570	29. 6	29. 8	29. 5	N	8	St..............	0	0	.....	.....	41. 7	Clear.
	11 p. m...	29. 579	+ 30. 3	+ 30. 0	+ 28. 2	N	12	Ci..............	0	0	.....	.....	+ 40. 0	Clear.

REMARKS.

(1) Max. temp. = + 42°.2; min. temp. = + 33°.4.
(2) Max. temp. = + 38°.2; min. temp. = + 26°.2.
(3) Max. temp. = + 33°.2; min. temp. = + 25°.4.
(4) At 2h p. m., specific gravity of the sea = 1.0263.

DISCUSSION OF THE OBSERVATIONS TAKEN AT NEWMAN'S BAY.

Temperature.—The following table contains simultaneous observations of the temperature of the air made at Newman's and Polaris Bays. The columns headed N give the observations made at the former; those headed P, at the latter locality.

Temperature of the air observed at Newman's Bay and at Polaris Bay.

Time.	June 14.		June 15.		June 16.		June 17.		June 18.		June 19.		June 20.		June 21.		June 22.		June 23.	
	N	P	N	P	N	P	N	P	N	P	N	P	N	P	N	P	N	P	N	P
h.	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
8 a. m.	....	....	34.2	33.6	37.0	35.3	36.7	38.1	34.4	31.7	36.0	32.2	34.2	36.8	33.0	31.6	35.1	34.9	36.4	38.[illegible]
11 a. m.	....	....	36.8	35.7	36.5	36.8	34.4	33.4	36.3	32.8	39.6	33.0	37.0	43.6	28.9	33.0	30.4	35.2	35.8	37.7
1 p. m.	46.3	38.3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
2 p. m.	38.9	39.5	39.9	38.5	37.0	37.5	33.9	33.1	34.0	34.9	35.1	34.7	34.5	40.8	29.9	33.3	31.4	33.9	30.0	34.[illegible]
3 p. m.	37.8	37.6	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
4 p. m.	33.1	37.6	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
5 p. m.	32.9	37.1	36.0	34.6	35.1	33.8	35.9	32.4	32.5	34.6	35.6	37.3	38.7	42.[illegible]	28.4	32.3	36.8	33.8	29.9	34.8
6 p. m.	33.3	35.7	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
7 p. m.	31.0	35.1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
8 p. m.	30.1	34.4	33.0	32.7	37.0	37.5	31.9	31.6	33.1	33.5	34.6	34.9	38.0	40.6	27.9	34.0	30.0	34.5	29.6	34.[illegible]
9 p. m.	30.1	35.2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
10 p. m.	29.9	33.8	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
11 p. m.	30.9	34.4	40.1	42.3	36.2	35.2	31.9	30.3	33.0	32.1	37.0	34.4	27.9	35.6	27.1	35.7	30.2	35.9	30.3	43.8
Means	33.9	36.2	36.6	36.2	36.4	36.0	36.1	33.1	33.9	33.3	36.3	34.4	35.0	39.8	29.2	33.3	32.6	34.7	32.0	37.2
Difference	....	2.3	0.4	....	0.4	....	3.0	....	0.6	....	1.9	....	....	4.8	....	4.1	....	2.1	....	5.2

The preceding table shows that on five days the mean temperature as derived from four-hourly (or, as in one instance, from hourly) observations was higher at Newman's Bay than at the other station; the maximum difference equaling +3°. The five remaining days were colder, showing a maximum difference of −5°.2. By taking the mean of the series on record, it will be found that from June 14 till June 23, inclusively, the temperature at Newman's Bay was by 1°.22 lower than at Polaris Bay, the difference of latitude of the two stations being 19′.1. The greatest difference observed at any hour occurred on June 14 at 1^h p. m., when the temperature at Newman's Bay was 46°.3, the record kept at the other more southern locality giving 38°.3 only.

The following table exhibits the maxima and minima of temperature as observed at the two stations under consideration. At Newman's Bay, self-registering instruments were used but not at the other locality, from which we selected the highest temperature on record for each period of time during which we had not set the index of our self-registering thermometers.

Maxima and minima of temperature observed at Newman's Bay and at Polaris Bay.

Date.	Maxima.		Minima.		Period of time.
	N	P	N	P	
	°	°	°	°	
June 13–14	50.9	37.8	30.8	33.4	From June 13, 11^h p. m., to June 14, 1^h p. m.
14	46.7	39.5	28.9	33.8	From June 14, 1^h p. m., to June 14, 11^h p. m.
15–16	43.6	43.8	34.9	34.3	From June 15, 11^h p. m., to June 16, 8^h a. m.
16–17	43.4	39.4	39.5	34.1	From June 16, 11^h p. m., to June 17, 8^h a. m.
17–18	39.2	31.7	30.5	29.7	From June 17, 11^h p. m., to June 18, 8^h a. m.
18–19	40.4	32.2	28.9	31.5	From June 18, 11^h p. m., to June 19, 8^h a. m.
19–20	42.2	36.8	33.4	34.1	From June 19, 11^h p. m., to June 20, 8^h a. m.
20–21	38.2	37.2	26.8	31.6	From June 20, 11^h p. m., to June 21, 8^h a. m.
21–22	33.2	36.5	25.4	33.5	From June 21, 11^h p. m., to June 22, 8^h a. m.
Means	41.97	37.99	31.01	32.88	

With the exception of two instances, viz, June 15-16 and June 21-22, the maximum temperature observed at Newman's Bay was higher than at Polaris Bay; the excess amounting to 0°.2 and 3°.3 respectively. The greatest difference between the maxima of the two stations occurred between June 13 and 14, equaling 13°.1, which seems to be rather abnormal. This considerable difference may perhaps be due to the fact that the thermometer at Polaris Bay was better protected against the direct rays of the sun than the one at our more northern station. The instrument-shelter used there consisted of a wooden box about 18 inches long, 10 inches high, and 6 inches deep, which was fastened to a pole about 4.5 feet above the ice. To prevent the effect of solar radiation, the box was covered with tin-foil. In June, the maximum temperature of the day at Polaris Bay occurs at 10^h a. m., and it is scarcely possible that in an interval of one hour between two observations the change of temperature could have been as great as the difference between the maxima of the two stations. If the instruments at Newman's Bay were not as well protected as those at the other locality, the minima, as observed at the former station, might reasonably be expected to be smaller than those of the latter, as the sun was circumpolar during the whole period. An examination of the values under consideration shows, however, that this was only the case in three instances, namely, on June 15, 16, and 17, the greatest difference amounting to 5°.6. Between June 13 and 14, when the greatest difference existed between the maxima of the two stations, the minimum as indicated by the self-registering thermometer at Newman's Bay was 2°.6 lower than that of Polaris Bay; consequently, we might suppose that the temperatures observed at the former station were actually the true temperatures of the air in the shade, the more so as the index-correction of our instruments was ascertained previous to our departure from and again after our return to the vessel. As mentioned before, due allowance has been made for the same.

Solar radiation.—Our observations on solar radiation made at Newman's Bay are not strictly comparable with those at the other station, as the bulb of the instrument used at the former locality was naked. It is to be regretted that we did not carry a black-bulb thermometer in vacuo, as the results obtained with the same would have furnished some valuable material for comparison with the observations on solar radiation made both at Polaris Bay and Polaris House. On account of want of room, we had to limit ourselves to the most necessary articles, and for this reason alone the more bulky instrument was left behind and preference given to a common thermometer.

If we compare the readings of the naked black-bulb instruments at both stations, we shall find that in most instances the temperatures observed at Newman's Bay are higher than those at Polaris Bay. A rather abnormal difference was exhibited on June 19 at 11^h a. m., when the black bulb at Newman's Bay read 102°.0, the temperature of the air being at the time 39°.6, which would give 62°.3 of solar heat. At Polaris Bay, the amount of solar heat observed at the same time by means of an ordinary black-bulb thermometer and another thermometer suspended in the shade was only 2°.8. The result derived from the reading of the instrument in vacuo at the same place gives only 21°.2 of solar heat, so that the difference between the observations made at the two stations appears to be 41°.1 in favor of Newman's Bay, although the instrument employed there was less perfect than the one made use of at the other locality. At the time of observation, the wind at Newman's Bay was from SE., its velocity being estimated at 10 miles, the sun shining bright, although the amount of clouds was $\frac{2}{4}$; at Polaris Bay, it was blowing from W. with a velocity of 6 miles, and the amount of clouds noted was $\frac{3}{4}$. Whether the sun was obscured at Polaris Bay at the moment of observation can not be ascertained.

Winds.—As we stated on one of the preceding pages, the winds in Smith Sound and Robeson Strait are rather local, and a comparison of the limited number of observations relating to this subject will corroborate this view.

On June 14, the prevailing wind at Newman's Bay was NW.; at Polaris Bay, it was either calm or there was a slight breeze from SE.

June 15, wind at Newman's Bay NW., except at 11^h p. m., when it was calm; at Polaris Bay, calms prevailed till 1^h p. m.; after that time light breezes from W., SW., NE., and NW., the latter prevailing.

June 16, wind at Newman's Bay veering from W. through SW. to S.; calm during the last two observations; at Polaris Bay, NE. prevailing.

June 17, prevailing wind at both stations SW.; at Polaris Bay, the upper clouds drifting SW.; at the other station, E. and N.

June 18, at Newman's Bay blowing from SW. during the first four observations; during the last three from S.; during the first part of the day, direction at Polaris Bay the same as at Newman's Bay; when at the latter station the wind veered to S., it shifted to W. and SW. at the former.

June 19, winds at both localities variable.

June 20, prevailing wind at Newman's Bay NW.; at Polaris Bay SE. and NE.

June 21, at Newman's Bay blowing from NW. during the whole 24 hours; at the other locality invariably from NE.

June 22, at Polaris Bay, the wind has the same direction as yesterday; at Newman's Bay blowing from N.

June 23, calms prevailing at Polaris Bay; after 2^h p. m. light wind from NW., while at the other station there is a smart breeze from N.

Ozone.—The quantity of ozone contained in the air during the period under consideration appears to have been greater at Newman's Bay than at the other station, as may be seen from the following comparison.

Date.	Newman's Bay.	Polaris Bay.
June 14	4½	3½
15	6	3
16	6½	3½
17	8½	5
18	6	3½
19	9	4½
20	6	3½
21	8	4
22	7	....
23	7½	....

METEOROLOGICAL OBSERVATIONS DURING THE DRIFT OF THE ICE-FLOE-PARTY.

The following meteorological record, containing the direction of the wind and the temperature of the air, was kept by Sergeant F. Meyer during the drift of the ice-floe-party. It was first published in the Annual Report of the Chief Signal-Officer to the Secretary of War for the year 1873, whence we have taken it. As might be expected, the record is very scanty, resulting from insufficiency of means and the sufferings of the crew during the eventful drift.

Date.	Latitude.	Longitude.	Direction of wind.	Temperature.
1872.	° ′	° ′		°
Oct. 16	77 35	......	SE & NE	......
17	......	......	NE	......
18	......	......	....	......
19	......	......	....	......
20	......	......	....	......
21	......	......	....	......
22	......	......	SE	......
23	......	......	SE	......
24	......	......	SE	......
25	......	......	....	......
26	......	......	E	+ 5
27	......	......	NE	+ 2.5
28	......	......	0 and E	......
29	......	......	0	......
30	......	......	0	......
31	......	......	0	......
Nov. 1	......	......	0	......
2	......	......		......
3	......	......	....	......
4	......	......	0	......
5	......	......	NW & N	......
6	......	......	N & NE	......
7	......	......	....	......
8	......	......	....	......
9	......	......	....	......
10	......	......	N	......
11	......	......	N	......
12	......	......	N	......
13	......	......	....	......
14	......	......	....	......
15	......	......	SE	......
16	......	......	N	......
17	......	......	N	......
18	......	......	NW	......
19	......	......	W	......
20	......	......	0	......
21	......	......	0	......
22	......	......	0	......
23	......	......	N	......
24	......	......	N	......
25	......	......	NW	......
26	......	......	W	......
27	......	......	W	......
28	......	......	W	......
29	......	......	W	......
30	......	......	0	......
Dec. 1	......	......	0	......
2	......	......	NW	......
3	......	......	NW	......
4	......	......	NW	— 9
5	......	......	NW	—15
6	......	......	NW	— 4
				— 1
7	74 04	67 53	W	......
			SW	
8	......	......	S	— 5
				—12
9	......	......	NW	—13
				—18
10	......	......	NW	—17
				—21
11	......	......	0	—26
12	......	......	W	—21.5
13	......	......	W	—19
14	......	......	0	—25
15	......	......	W	—20

Date.	Latitude.	Longitude.	Direction of wind.	Temperature.
1872.	° ′	° ′		°
Dec. 16	......	......	W	— 3
				— 1
17	......	......	0	— 4
				+ 1.5
18	......	......	0	+ 5
19	......	......	N	+ 2
20	......	......	W	+ 4
21	......	......	N	+ 9
				+ 6
22	......	......	0	—14
23	......	......	NW	— 9
24	......	......	N	+ 4
25	......	......	N	— 1
26	......	......	N	+12
27	......	......	N	+ 8
				+ 5
28	......	......	0	+ 1
				+ 3
29	......	......	N	— 4
				— 6
30	......	......	NW	—10
31	......	......	S	—21
			N	—23
1873.				
Jan. 1	......	......	0	—25
			SE	—29
2	......	......	Changeable.	—18
				—23
3	......	......	NW	—23
4	......	......	NW	— 2
5	72 07	60 41	S	—22
				—25
6	......	......	S	—25
				—30
7	......	......	S	—25
				—30
8	......	......	S	—27
				—30
9	......	......	0	—35
10	......	......	SE	—30
11	......	......	NE	—33
12	......	......	NW	—33
13	......	......	0	—38
				—40
14	......	......	NE	—12
				—16
15	......	......	W	—17
16	......	......	NW	—31
				—25
17	......	......	NW	—38
18	......	......	NW	—27
				—28
19	......	......	0	—27
				—32
20	70 02	60 01	0	—33
21	......	......	N	—36
22	......	......	SE	—39
				—32
23	......	......	NW	—31
			W	—35
24	......	......	SE	—23
				—21
25	......	......	NW	—34
				—40*
26	......	......	NW	—40*

Date.	Latitude.	Longitude.	Direction of wind.	Temperature.
1873.	° ′	° ′		°
Jan. 27	69 32	60 03	SE	—40*
28	......	......	0	—40*
29	......	......	SE	—40*
			S	—34
30	......	......	SW	—24
			SE & E	—19
31	......	......	NE & NW	—24
			N	—26
Feb. 1	......	......	W	—22
				—19
2	......	......	WNW	—19
				—16
3	......	......	SSW	—16
				—13
4	......	......	W	—10
5	68 50	......	SW & S	—17
			SSE	......
6	......	......	NW	—10
7	......	......	S	—10
			W	— 5
				—24
				—26
8	......	......	0	—30
			SE	—16
9	......	......	W	—10
10	......	......	W	—10
				—20
11	......	......	NW	— 7
12	......	......	NW	......
			W	—10
13	......	......	W	—10
14	......	......	W	—19
				—16
15	......	......	W	—15
16	......	......	0	......
			W	......
17	......	......	W	—30
				—20
18	......	......	W	—25
19	......	......	N	—14
				—21
20	......	......	E	— 8
				— 4
21	......	......	0	+ 6
			S	+10
22	......	......	0	+ 5
			SE	+24
23	......	......	SE	+20
				+15
				+12
24	......	......	N	— 8
				+ 2
25	......	......	0	— 9
			NE	+ 5
26	......	......	NW	—24
			0	—10
27	......	......	N	—25
28	......	......	NW	—28
				—20
Mar. 1	......	......	NW	—34
				—18
2	......	......	NW	—31
				—19
3	......	......	NW	—23
				—20

* Mercury solid.

Date.	Latitude.	Longitude.	Direction of wind.	Temperature.
1873.	° ′	° ′		°
Mar. 4	......	......	0	—27
				— 6
				—34
5	......	......	NW	......
6	......	......	WNW	—20
7	......	......	WNW	—23
				—20
8	......	......	0	—30
				—13
9	......	......	0	—22
			N	—10
10	......	......	N	......
11	......	......	N	+ 5
				+ 1
12	64 32	......	N	+15
13	......	......	NNW	+40
				+10
				— 4
14	64 19	......	SE	— 8
				+14
15	......	......	E	— 5
15	......	......	NW	+10
16	......	......	0	— 8
				— 1
17	63 47	......	NE	— 5
				+18
18	......	......	SW	—13
			NW	— 5

Date.	Latitude.	Longitude.	Direction of wind.	Temperature.
1873.	° ′	° ′		°
Mar. 19	......	......	N	—18
				— 4
20	......	......	N	—11
				— 4
21	......	......	N	......
22	62 56	......	NW	—10
				+15
23	......	......	N	— 5
				+ 8
24	......	......	N	— 5
				+ 8
25	61 59	......	N	— 6
				+ 7
26	......	......	NW	— 4
				+ 9
27	......	......	NW	+ 0
				+20
28	......	......	N	+ 3
				+10
29	......	......	WNW	— 1
				+ 9
30	......	......	WNW	+ 6
31	59 41	......	WNW	......
April 1	......	......	NNW	+12
2	......	......	SW	......
3	......	......	NNW	......
4	56 47	......	NE	......
5	......	......	NE	......

Date.	Latitude.	Longitude.	Direction of wind.	Temperature.
1873.	° ′	° ′		°
April 6	......	......	NW	......
7	......	......	WNW	......
8	......	......	WNW	......
9	55 51	......	NW	......
10	......	......	0	......
11	......	......	0	......
12	55 35	......	SE	......
13	55 23	......	SW	......
14	55 13	......	N	......
15	54 58	......	N	......
16	54 27	......	NNW	......
17	......	......	N	......
18	......	......	NW	......
19	......	......	NW	......
20	......	......	NE	......
21	52 57	......	NE	......
22	......	......	....	......
23	......	......	N	......
			NE	......
24	......	......	N	......
			NE	......
25	......	......	NE	......
26	53 30	......	....	......
27	......	......	....	......
28	......	......	W, S & W	......
29	53 04	......	0	......
30	......	......	....	......

METEOROLOGICAL RECORD KEPT DURING THE RETREAT OF THE UNITED STATES ARCTIC EXPEDITION FROM POLARIS HOUSE TO MELVILLE BAY.

The following meteorological record was kept by the writer during the boat-journey from Polaris House to Melville Bay. Circumstances did not permit the taking of observations at regular intervals, but they were made whenever this could be done without inconvenience, both when on shore and afloat, or when we encamped or were otherwise detained on the land-floe of Melville Bay.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Weather.	Temperature of sea.	Remarks.
1873.	h.	In.	°	°	°							°	
June 3	5 p. m.	29.818	34.0	34.0	31.0	S	2	Ci.-st	0	0	Clear	.....	Sorfalik.
								St					
	12 p. m.	29.822	29.5	29.5	28.2	0	0	3-4 ci.-cum.	0	0	Cloudy	29.5	Max. temp. 40°.1, min. temp. 26°.2, since last observation.
4	4 a. m.	29.863	29.8	29.8	28.7	0	0	Ci	N	SW	Fair	.....	Max. 32°.2, min. 27°.5, since last observation.
								Cum					
								1-4 st					
	12 p. m.	30.014	29.5	29.5	28.9	0	0	3-4 st	0	0	Cloudy	29.5	Hakluyt Island; very light snow.
5	5 a. m.	30.067	29.0	29.0	28.1	SW	7	4-4 cum	NE	NE	Cloudy	.....	
	8 a. m.	30.089	29.0	29.0	27.6	SW	20	2-4 cum	NE	NE	Cloudy	29.3	Max. 30°.8, min. 27°.3, since 12h p. m.
								1-4 st					
	1 p. m.	30.025	29.4	29.4	28.0	SW	20	4-4 st	0	0	Lt. snow	.....	
	5 p. m.	30.010	28.6	28.6	27.9	SW	15	4-4 st	0	0	Lt. snow	.....	
	11 p. m.	29.948	29.2	29.2	28.8	SW	18	4-4 st	0	0	Snow	29.4	
6	8 a. m.	29.900	27.5	27.5	27.0	SW	12	4-4 st	0	0	Cloudy	....	Max. 31°.2, min. 25°.0, since 8h a. m.
	2 p. m.	29.853	28.0	28.0	27.4	SW	10	4-4 st	0	0	Cloudy	29.2	
	6 p. m.	29.820	26.8	26.8	26.3	SW	8	3-4 st	0	0	Snow	.....	
	12 p. m.	29.780	25.2	25.2	24.5	S	15	2-4 st	0	0	Fair	.....	
7	8 a. m.	29.725	25.2	25.2	24.4	S	12	4-4 st	0	0	Fair	29.0	Max. 31°.4, min. 23°.3, during last 24 hours.
	2 p. m.	29.675	34.0	34.0	31.0	SW	10	1-4 cu., ci.-cum., and st.	NE	NE	Fair	.....	
	8 p. m.	29.600	29.0	29.0	27.2	S	15	4-4 st	0	0	Cloudy	.....	
8	7 a. m.	29.550	27.0	27.0	25.4	S	5	4-4 st	0	0	Cloudy	29.0	Max. 36°.3, min. 25°.2, during last 24 hours.
	1 p. m.	29.575	26.4	26.4	26.0	S	12	3-4 st	0	0	Cloudy	.....	
	5 p. m.	29.618	23.5	23.5	23.0	SW	10	4-4 st	0	0	Snow	.....	Northumberland Island.
	12 p. m.	29.581	26.4	26.4	24.6	S	15	4-4 st	0	0	Cloudy	.....	
9	6 a. m.	29.461	27.2	27.2	26.5	S	8	4-4 st	0	0	Cloudy	.....	
	11 a. m.	29.519	27.0	27.0	26.3	SW	3	Ci.-cum	NE	0	Clear	.....	
	3 p. m.	29.548	35.5	35.5	31.0	NE	5	Ci.-cum	S	0	Fair	.....	
								1-4 st					
	6 p. m.	29.534	29.0	29.0	24.0	NE	5	Ci.-cum	S	0	Fair	29.0	Paraselena, with two mock suns.
								1-4 st					
	10 p. m.	29.512	26.2	26.2	23.4	0	0	Ci.-cum	N	0	Fair	.....	
								2-4 st					
10	3 a. m.	29.540	27.5	27.5	24.0	E	3	2-4 st	0	0	Fair	.....	
	8 a. m.	29.572	28.0	28.0	25.3	E	5	Cum	0	0	Fair	.....	
								1-4 st					
	1 p. m.	29.612	38.0	38.0	33.0	SW	1	Ci.-cum	0	0	Fair	29.8	
								2-4 st					
	4 p. m.	29.633	40.0	40.0	34.0	E	1	2-4 cum	S	0	Fair	.....	
	7 p. m.	29.670	25.0	25.0	22.5	E	2	2-4 cum	S	0	Fair	.....	
	12 p. m.	29.691	23.0	23.0	20.8	SW	12	3-4 st	N	NE	Cloudy	.....	Ice-floe.
11	8 a. m.	29.713	34.2	34.2	31.2	E	3	1-4 st	0	0	Fair	.....	Do.
	3 p. m.	29.730	42.8	42.8	36.5	NE	2	St	0	0	Clear	30.0	Back at old camp, Northumberland Island.
	9 p. m.	29.617	32.0	32.0	28.5	NE	1	St.	0	0	Clear	.....	
	12 p. m.	29.662	28.3	28.3	23.0	SW	8	4-4 st	0	0	Cloudy	.....	
12	8 a. m.	29.718	32.0	32.0	30.0	0	0	1-4 ci. and ci.-cu.	SW	0	Cloudy	.....	
								2-4 st					
	2 p. m.	29.695	35.2	35.2	31.0	N	5	2-4 st	0	0	Fair	29.7	
	9 p. m.	29.662	25.5	25.5	23.5	S	2	4-4 st	0	0	Lt. snow	.....	
	12 p. m.	29.670	23.1	23.1	21.0	SW	5	4-4 st	0	0	Cloudy	.....	
13	8 a. m.	29.705	33.0	33.0	30.8	NE	3	1-4 st	0	0	Fair	.....	
	3 p. m.	29.644	35.1	35.1	31.4	SE	2	3-4 st	0	0	Cloudy	30.2	Afloat.
	10 p. m.	29.588	36.0	36.0	32.0	SE	3	3-4 st	0	0	Cloudy	.....	Dalrymple Rock.
14	8 a. m.	29.484	33.0	33.0	31.5	N	5	0	0	0	Clear	.....	Do.
	1 p. m.	29.468	47.4	47.4	41.5	NE	3	0	0	0	Clear	30.4	Do.
	5 p. m.	29.450	49.0	49.0	40.0	NE	5	0	0	0	Clear	.....	Wolstenholm Island.
	11 p. m.	29.432	37.4	37.4	34.0	SE	6	0	0	0	Clear	.....	Do.
15	5 a. m.	29.565	33.5	33.5	32.0	SE	5	Ci	S	NW	Fair	31.0	Ice-floe.
								2-4 st					

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Weather.	Temperature of sea.	Remarks.
1873.		*In.*	°	°	°							°	
June 15	10 a. m.	29.613	39.0	39.0	36.2	N	3	4-4 st	0	0	Cloudy	31.5	Afloat.
	12 m	29.630	41.2	41.2	39.0	N	1	4-4 st	0	0	Cloudy	32.0	Do.
	2 p. m.	29.635	39.5	39.5	38.0	NE	2	4-4 st	0	0	Cloudy	31.6	Do.
	4 p. m.	29.620	38.2	38.2	37.2	NE	3	4-4 st	0	0	Lt. rain	31.5	Do.
	6 p. m.	29.612	38.0	38.0	36.5	NE	3	4-4 st	0	0	Lt. rain	32.0	Do.
	10 p. m.	29.603	37.0	37.0	35.0	NE	10	St	0	0	Clear	.....	Conical Rock.
16	4 a. m.	29.656	30.6	30.6	27.1	SW	15	4-4 st	0	0	Cloudy	.....	Do.
	9 a. m.	29.690	29.8	29.8	29.3	S	8	4-4 st	0	0	Lt. snow	.....	Do.
	2 p. m.	29.716	30.7	30.7	29.2	SE	10	4-4 st	0	0	Lt. snow	29.4	Do.
	6 p. m.	29.740	30.0	30.0	29.0	SE	14	4-4 st	0	0	Lt. snow	.....	
	11 p. m.	29.786	29.0	29.0	27.5	SE	3	4-4 st	0	0	Lt. snow	.....	
17	7 a. m.	29.817	30.2	30.2	28.6	SE	5	4-4 st	0	0	Lt. snow	.....	
	11 a. m.	29.932	31.0	31.0	30.0	SE	6	4-4 st	0	0	Lt. snow	.....	
	3 p. m.	30.104	30.5	30.5	29.0	SE	5	4-4 st	0	0	Lt. snow	29.6	
	7 p. m.	30.139	30.0	30.0	29.0	SE	7	4-4 st	0	0	Cloudy	.....	
	11 p. m.	30.128	29.8	29.8	27.3	SE	5	4-4 st	0	0	Cloudy	.....	
18	6 a. m.	30.053	34.0	34.0	32.1	SE	4	3-4 cum	0	0	Cloudy	30.1	
	11 a. m.	30.008	31.5	31.5	28.5	SE	2	3-4 cum	0	0	Cloudy	.....	
	3 p. m.	30.000	34.7	34.7	32.2	SE	3	1-4 st 2-4 cum 2-4 st	SW	NW	Cloudy	.....	
	8 p. m.	29.992	32.8	32.8	31.3	0	0	4-4 st	0	0	Lt. snow	30.0	
	11 p. m.	29.974	31.0	31.0	29.5	0	0	4-4 st	0	0	Lt. snow	.....	
19	6 a. m.	29.957	30.2	30.2	28.2	W	10	St	0	0	Clear	.....	
	12 m	29.903	31.2	31.2	30.0	0	0	4-4 st	0	0	Cloudy	29.8	
	5 p. m.	29.862	30.0	30.0	27.5	0	0	4-4 st	0	0	Cloudy	.....	
	11 p. m.	29.843	29.0	29.0	27.5	0	0	4-4 st	0	0	Cloudy	.....	
20	6 a. m.	29.802	32.5	32.5	31.0	S	2	4-4 st	0	0	Cloudy	.....	
	11 a. m.	29.760	39.0	39.0	37.0	0	0	4-4 st	0	0	Cloudy	.....	
	8 p. m.	29.600	28.3	28.3	27.8	S	2	4-4 st	0	0	Lt. snow	29.3	
21	6 a. m.	29.568	32.5	32.5	31.0	0	0	4-4 st	0	0	Cloudy	.....	
	11 a. m.	29.530	32.0	32.0	31.5	0	0	4-4 st	0	0	Lt. snow	.....	
	4 p. m.	29.512	36.3	36.3	35.0	SW	2	4-4 st	0	0	Cloudy	.....	
	11 p. m.	29.468	27.5	27.5	27.0	0	0	Ci.-cum 2-4 st	0	0	Fair	29.0	
22	7 a. m.	29.434	31.0	31.0	30.3	SE	2	4-4 st	0	0	Lt. snow	....	
	11 a. m.	29.470	34.3	34.3	32.0	E	5	4-4 st	0	0	Cloudy	29.8	
	5 p. m.	29.543	24.5	24.5	23.0	E	3	St	0	0	Clear	.....	
	11 p. m.	29.558	31.4	31.4	30.0	E	6	3-4 cum	0	W	Cloudy	.....	
23	6 a. m.	29.546	30.6	30.6	29.1	E	5	2-4 st	0	0	Fair	.....	
	11 a. m.	29.560	34.3	34.3	30.0	E	2	1-4 st	0	0	Fair	30.4	

METEOROLOGICAL OBSERVATIONS IN LANCASTER SOUND, BAFFIN'S BAY, DAVIS STRAIT, AND THE NORTH ATLANTIC.

The meteorological observations recorded hereafter were made on board the whaling-steamer Arctic, on which a portion of the boat-party had been received. Capt. William Adams kindly shared his cabin with us, and afforded us all the facilities for making observations one could ask on board of a vessel. With his permission, the ship's carpenter made us a box similar to the one we had used on board the Polaris, which was placed on the quarter-deck to receive the instruments; the latter being set up a few hours after we had been transferred on board.

The instruments used were the same we had made our observations with during our retreat from Polaris House. On July 9, the vessel being moored to an ice floe, we had a good opportunity to compare the aneroid, from which the following barometric results are derived, with Green's standard. At 2^h p. m., Green read $30^{in}.226$, temperature of mercury $60^\circ.2$ F., giving $30^{in}.141$ when reduced to 32° F., and $30^{in}.191$ when corrected for index-error. Casella read $30^{in}.210$, its correction being consequently $-0^{in}.019$, which was duly applied to the instrumental readings.

Owing to the kindness of Commander A. H. Markham, R. N., who was a passenger on board the Arctic, we were enabled to make the observations bi-hourly; this gentleman usually standing on watch from 6^h p. m. till midnight, during which time we turned in.

In regard to the observations, no further explanation will be needed; we merely limit ourselves to the statement that the velocity of the wind is not based on actual measurement, but is only estimated, with the exception of the first week, during which we used a small anemometric machine we had constructed with the wheels of an old clock, but which was broken soon afterward by an accident.

Latitude, 73°.08′ N.; longitude, 75°.25′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
1873.	h.	In.	°	°	°								°		
July 8	2	30.156	36.2	36.0	33.4	0.156	75.0	SE	4	Ci.-cum 1-4 n	0	0	....	Fair	
	4	30.164	38.6	38.5	36.0	0.179	76.8	SE	6	Ci. and ci.-st 2 4 n	0	0	....	Fair	
	6	30.178	38.5	38.5	36.0	0.179	76.8	SE	5	3-4 cum	0	0	....	Cloudy	
	8	30.175	38.3	38.0	36.3	0.192	85.6	SE	2	Ci.-st 2-4 n	0	0	....	Fair	
	10	30.175	38.0	37.8	36.6	0.207	90.5	SE	1	Ci.-st 2-4 st	0	NE	....	Fair	
	Noon.	30.183	43.2	43.0	41.4	0.231	83.3	SE	1	Ci.-st 2-4 st	0	0	....	Fair	
	2	30.175	44.5	44.5	41.5	0.223	75.9	0	0	Ci.-cum 2-4 ci.-st St	0	0	....	Fair	
	4	30.189	40.9	40.9	37.8	0.190	73.8	N	6	Ci.-cum 2-4 ci.-st	0	0	....	Hazy	
	6	30.175	39.0	39.2	38.2	0.216	90.7	NW	7	Ci.-cum 2-4 n	0	SE	....	Fair	
	8	30.161	39.5	39.0	37.5	0.205	86.1	N	7	1-4 ci.-cum.	0	SE	....	Fair	
	10	30.151	38.6	38.2	37.5	0.219	95.2	N	23	1-4 ci	0	0	....	Fair	
	Mid't.	30.163	37.8	37.8	36.4	0.196	85.9	N	15	1-4 ci.-st	0	0	....	Fair	
Means	......	30.170	39.43	....	....	0.199	82.97	....	....	....	....	....	....	....	

Latitude, 73°.40′ N.; longitude, 73°.41′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Dry.	Wet.	Force of vapor.	Relative humidity.	Direction.	Velocity.	Clouds.	Upper.	Lower.	Temperature of sea.	Weather.	Remarks.
July 9	2	30.148	37.8	37.5	36.3	0.200	90.3	N	12	Ci	0	0	....	Clear	
	4	30.148	40.8	40.8	39.2	0.219	86.6	N	10	0	0	0	....	Clear	
	6	30.145	39.9	39.9	39.3	0.232	95.4	N	15	0	0	0	....	Clear	
	8	30.150	40.5	40.5	38.0	0.196	77.9	N	10	St	0	0	....	Clear	
	10	30.153	39.0	39.0	37.8	0.216	90.7	N	12	Ci.-st St	0	0	....	Clear	
	Noon.	30.145	39.4	39.4	38.3	0.218	90.9	N	10	Ci.-st	0	0	....	Clear	
	2	30.143	39.3	39.2	38.0	0.217	90.8	N	15	Ci.-st	0	0	38.5	Clear	Loose pack.
	4	30.132	40.9	40.0	38.7	0.225	91.0	N	25	Ci.-st	0	0	38.5	Clear	Little ice; water blue.
	6	30.123	37.9	37.8	37.1	0.214	95.2	N	28	Ci.-st	0	0	36.5	Clear	Moderate ice; water greenish.
	8	30.121	36.5	36.5	36.4	0.213	98.1	N	21	Ci	0	0	37.2	Clear	Loose ice; water blue.
	10	30.119	35.0	35.0	34.3	0.183	89.8	N	18	Ci	0	0	36.0	Clear	Loose ice; water greenish.
	Mid't.	30.108	36.0	36.0	35.3	0.191	90.0	N	12	Ci.-st	0	0	38.0	Clear	Do. do.
Means	......	30.136	38.58			0.227	90.56	....	....	....	....	....	....	....	

Latitude, 73°.50′ N.; longitude, 73°.05′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Dry.	Wet.	Force of vapor.	Relative humidity.	Direction.	Velocity.	Clouds.	Upper.	Lower.	Temperature of sea.	Weather.	Remarks.
July 10	2	30.090	36.0	35.4	34.8	0.197	94.9	N	8	Ci	0	0	36.4	Clear	Little ice; water green.
	4	30.084	37.8	38.0	37.4	0.214	95.2	N	10	Ci.-st	0	0	36.8	Clear	Do. do.
	6	30.083	40.8	40.5	38.8	0.219	86.6	N	8	Ci.-st	0	0	37.2	Clear	Do. do.
	8	30.075	40.5	40.5	38.5	0.208	82.2	N	5	Ci.-st	0	0	37.5	Clear	Do. do.
	10	30.063	40.3	40.0	38.0	0.203	82.0	N	3	Ci.-st	0	0	38.6	Clear	Do. do.
	Noon.	30.067	36.2	36.0	35.0	0.191	90.0	N	5	Ci.-st	0	0	39.8	Clear	Do. do.
	2	30.064	36.0	36.0	35.0	0.191	90.0	N	3	Ci.-st	0	0	39.6	Clear	Do. do.
	4	30.055	35.5	35.5	34.5	0.187	89.9	N	3	Ci.-st	0	0	39.5	Clear	Do. do.
	6	30.052	34.8	35.0	34.0	0.183	89.8	N	5	0	0	0	34.8	Clear	Do. do.
	8	30.044	34.1	34.0	33.3	0.180	94.5	N	3	0	0	0	34.5	Clear	Do. do.
	10	30.028	33.3	33.0	32.5	0.178	94.6	0	0	Ci.-st	0	0	34.1	Clear	Do. do.
	Mid't.	30.027	30.0	30.0	29.2	0.149	89.0	0	0	Ci.-st	0	0	31.5	Hazy	Do. do.
Means	......	30.059	36.27	....	....	0.192	89.89	....	....	....	....	....	....	....	

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
Latitude, 73°.51′ N.; longitude, 72°.15′ W., at noon.															
1873.	*h.*	*In.*	°	°	°								°		
July 11	2	30.039	28.3	28.3	27.0	0.136	88.3	0	0	Ci.-st......	0	0	29.0	Hazy...	More ice, but loose; water green.
	4	30.053	25.5	25.2	25.2	0.135	100.0	N	4	Ci.-st......	0	0	27.5	Hazy...	Loose ice; water blue.
	6	30.059	26.7	26.5	26.0	0.135	91.0	N	10	Cum	0	0	29.0	Hazy...	Loose ice; water greenish.
	8	30.065	26.3	26.5	26.0	0.135	94.0	N	12	Cum	0	0	29.3	Lt.snow	Do. do.
	10	30.062	27.9	28.0	27.3	0.139	88.7	NE	4	Cum	0	0	30.5	Lt.snow	Do. do.
	Noon.	30.079	34.5	34.0	28.2	0.108	59.4	NE	8	Cum	0	0	32.2	Hazy...	Loose ice; water dark green.
	2	30.075	29.2	29.0	28.8	0.153	96.0	NE	8	4-4 st......	0	0	31.9	Lt.snow	Do. do.
	4	30.072	30.0	30.0	29.6	0.154	94.5	NE	7	4-4 st	0	0	33.3	Cloudy.	Loose ice; water growing lighter.
	6	30.080	28.3	28.3	28.1	0.153	96.0	NE	9	4-4 st......	0	0	30.8	Cloudy.	Loose ice; water green.
	8	30.092	27.9	28.0	27.8	0.144	95.0	NE	8	4-4 st......	0	0	30.8	Lt.snow	Do. do.
	10	30.095	27.2	27.0	26.6	0.135	94.0	NE	10	4-4 n	0	0	30.5	Cloudy.	Do. do.
	Mid't.	30.090	26.8	26.8	26.6	0.139	97.0	NE	10	4-4 n	0	0	30.4	Fog	Do. do.
Means..	......	30.072	28.22	.....	.....	0.139	91.40	....	...	....	.....	.....	....	....	
Latitude, 74°.23′ N.; longitude, 72°.16′ W., at noon.															
July 12	2	30.103	26.4	26.2	25.2	0.123	87.6	NE	8	4-4 st......	0	0	29.0	Lt.snow	Little ice; water blue.
	4	30.118	26.0	26.0	25.8	0.140	96.0	NE	10	4-4 st......	0	0	29.5	Lt.snow	Little ice; water dark green.
	6	30.127	27.0	27.0	26.8	0.146	97.0	NE	12	4-4 st......	0	0	29.8	Cloudy.	Do. do.
	8	30.139	28.7	28.6	28.0	0.148	94.3	NW	10	4-4 st......	0	0	30.0	Cloudy.	Do. do.
	10	30.133	29.0	28.8	28.3	0.150	94.4	NW	15	4-4 n	0	0	31.8	Fog	Loose ice; water blue.
	Noon.	30.140	30.9	30.5	29.9	0.161	94.7	NW	14	4-4 n	0	0	31.8	Fog	Loose ice; water greenish.
	2	30.155	31.5	31.2	30.9	0.170	96.0	NW	16	3-4 n	0	0	31.2	Fog	Do. do.
	4	30.162	32.5	31.9	30.0	0.144	79.4	NE	18	1-4 ci.-st...	0	0	33.1	Hazy...	Much ice; water greenish.
	6	30.161	35.0	35.1	31.8	0.203	97.0	E	15	2-4 ci.-st...	0	0	31.8	Fair....	Loose ice; water greenish.
	8	30.162	34.0	34.0	33.1	0.175	89.5	E	18	4-4 st......	0	0	36.2	Cloudy.	Do. do.
	10	30.140	35.0	35.0	33.5	0.172	84.7	E	20	4-4 st......	0	0	35.5	Cloudy.	Do. do.
	Mid't.	30.118	34.5	34.5	33.3	0.169	84.5	E	20	4-4 st......	0	0	33.6	Cloudy.	Do. do.
Means..	......	30.138	30.37	....	.....	0.158	91.26	....	....	....	.....	.....	....	....	
Latitude, 72°.53′ N.; longitude, 73°.30′ W., at noon.															
July 13	2	30.107	34.0	34.0	33.3	0.175	89.5	E	12	4-4 st......	0	0	33.0	Cloudy	Loose ice; water greenish.
	4	30.093	33.8	33.7	33.0	0.177	91.0	NE	15	Ci.-st......	0	0	32.7	Fair....	Do. do.
	6	30.094	33.9	33.8	33.2	0.182	94.7	E	18	2-4 st...... 1-4 cum ...	0	0	35.0	Cloudy.	Do. do.
	8	30.095	34.0	34.0	33.4	0.189	94.8	E	15	2-4 st...... 3-4 cum ...	0	0	34.6	Cloudy.	Much ice; water greenish.
	10	30.073	34.3	34.2	33.4	0.190	94.9	NE	10	4-4 st......	0	0	35.2	Hazy...	Do. do.
	Noon.	30.055	37.4	37.0	36.8	0.209	97.5	E	10	4-4 st......	0	0	35.4	Cloudy.	Do. do.
	2	30.038	38.8	38.8	37.2	0.201	86.0	NE	8	4-4 st......	0	0	35.8	Cloudy	Do. do.
	4	30.012	36.1	36.0	35.7	0.20-	96.5	E	10	4-4 st	0	0	32.5	Cloudy	Do. do.
	6	30.000	36.0	36.0	35.6	0.205	95.0	E	12	1-4 cum ... 2-4 n	0	0	32.7	Cloudy.	Do. do.
	8	29.962	35.9	36.0	34.5	0.180	85.1	E	10	4-4 st......	0	0	32.6	Cloudy	Do. do.
	10	29.920	35.0	35.2	34.8	0.197	94.9	NE	8	4-4 st......	0	0	32.5	Cloudy	Do. do.
	Mid't.	29.895	35.0	34.9	34.0	0.183	89.8	E	12	4-4 st	0	0	31.9	Cloudy	Do. do.
Means..	......	30.029	35.35	.....	.....	0.191	92.46	....	....	....	.....	....	....	....	

Latitude, 72°.50′ N.; longitude, 73°.56′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
1873.	h.	In.	°	°	°								°		
July 14	2	29.863	34.8	34.7	33.7	0.183	89.8	E	12	4-4 st......	0	0	32.0	Cloudy.	Little ice; water green.
	4	29.818	34.0	34.0	33.0	0.175	89.5	E	15	4-4 st.....	0	0	32.3	Cloudy.	Do. do.
	6	29.779	33.3	33.2	33.0	0.189	99.7	E	18	4-4 st......	0	0	32.8	Rain ...	Do. do.
	8	29.795	33.0	33.0	33.0	0.188	100.0	S	15	4-4 st......	0	0	32.4	Fog	Do. do.
	10	29.810	33.4	33.3	33.0	0.190	98.0	S	15	4-4 st......	0	0	32.5	Fog	Fast to ice-floe.
	Noon.	29.840	33.8	33.5	33.0	0.182	94.7	S	12	4-4 st......	0	0	32.2	Fog	Do.
	2	29.882	35.4	35.2	34.8	0.197	94.9	S	10	St.........	0	0	32.2	Clear..	Loose ice; water blue.
	4	29.915	36.0	36.0	35.1	0.191	90.0	S	11	Ci .... 1-4 st......	0	0	34.8	Fair....	Heavy ice; water blue.
	6	29.939	35.6	35.8	35.7	0.204	99.5	S	8	2-4 ci.-st...	0	0	35.6	Fair....	Do. do.
	8	29.959	36.8	37.5	37.1	0.224	98.0	S	7	2-4 ci.-st...	0	0	37.8	Fair....	Do. do.
	10	29.976	36.9	37.2	37.0	0.222	99.0	S	1	2-4 ci.-st...	0	0	37.8	Fair....	Do. do.
	Mid't.	29.980	34.4	34.5	33.9	0.189	94.8	E	1	Cum ...... 2-4 ci.-st...	0	0	35.0	Fair....	Do. do.
Means..	......	29.878	34.78	....	.....	0.196	95.64	....	....	....	.....	.....	....	....	

Latitude, 72°.59′ N.; longitude, 73°.59′ W., at noon.

July 15	2	30.002	33.0	33.0	32.5	0.179	94.6	E	1	1-4 ci.-st...	0	0	35.0	Fair....	Heavy ice; water blue.
	4	30.025	34.0	34.0	33.5	0.185	94.7	0	0	1-4 ci.-st...	0	0	34.8	Fair....	Do. do.
	6	30.034	36.2	36.0	36.0	0.212	100.0	NW	8	Ci.-st......	0	0	35.7	Hazy...	Little ice; water blue.
	8	30.043	33.4	33.0	33.0	0.188	100.0	W	5	St.........	0	0	35.0	Hazy...	Do. do.
	10	30.043	39.0	39.0	38.2	0.216	90.7	0	0	St.........	0	0	35.3	Hazy...	Do. do.
	Noon.	30.052	41.4	41.0	39.9	0.235	91.2	0	0	St.........	0	0	35.5	Hazy...	Do. do.
	2	30.073	37.0	36.5	36.0	0.205	95.0	0	0	St.........	0	0	37.8	Hazy...	Much and heavy ice; water blue.
	4	30.071	37.0	36.2	36.0	0.210	99.0	0	0	St.........	0	0	37.5	Hazy...	Less ice; water blue.
	6	30.075	33.9	33.8	33.7	0.190	98.5	E	5	4-4 st......	0	0	35.2	Fog	Little ice; water blue.
	8	30.092	31.9	31.8	31.0	0.162	89.6	E	1	St.........	0	0	34.1	Fog	Do. do.
	10	30.100	30.8	30.2	29.9	0.168	98.5	0	0	St.........	0	0	33.7	Fog	Do. do.
	Mid't.	30.105	29.5	29.3	29.0	0.162	98.0	NE	3	St.........	0	0	33.0	Fog	Do. do.
Means..	......	30.060	34.76	....	.....	0.192	95.81	....	....	....	.....	.....	....	....	

Latitude, 72°.54′ N.; longitude, 73°.20′ W., at noon.

July 16	2	30.142	34.3	34.0	33.5	0.185	94.7	E	2	1-4 cum....	NW	0	33.5	Fog	Little ice; water blue.
	4	30.151	31.2	29.9	29.4	0.155	94.6	0	0	Cum .. .... Ci.-cum . ..	NW	0	32.2	Fog	Do. do.
	6	30.159	29.6	29.5	29.0	0.154	94.5	0	0	Ci.-cum . ..	NW	0	31.8	Fog	Do. do.
	8	30.171	34.8	34.4	33.5	0.179	89.7		3	1-4 st......	0	0	32.5	Hazy...	Do. do.
	10	30.175	33.0	33.0	32.0	0.168	89.3		2	1-4 st......	0	0	36.2	Fair....	Do. do.
	Noon.	30.182	34.2	34.0	33.0	0.175	89.5		4	1-4 st......	0	0	35.5	Fair....	Do. do.
	2	30.180	39.5	39.2	37.5	0.198	81.8	0	0	2-4 st......	0	0	36.7	Hazy...	Much and heavy ice; water blue.
	4	30.197	36.0	34.9	34.7	0.207	98.0	NE	2	2-4 st.....	0	0	36.1	Fog	Much and heavy ice; water green.
	6	30.206	33.2	32.9	32.1	0.169	89.9	0	0	2-4 st......	0	0	34.6	Fog	Do. do
	8	30.202	31.2	30.9	30.1	0.155	89.3	0	0	St.........	0	0	32.3	Fog	Do. do
	10	30.211	29.5	29.6	29.0	0.154	94.5	0	0	2-4 st......	0	0	31.0	Fog	Do. do
	Mid't.	30.215	29.3	29.2	28.8	0.153	94.3	NE	2	Ci.-st......	0	0	30.4	Hazy...	Do. do
Means..	......	30.182	32.98	....	.....	0.171	91.66	....	....	....	.....	.....	....	....	

Latitude, 73°.07′ N.; longitude, 72°.52′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
1873.	*h.*	*In.*	°	°	°								°		
July 17	2	30.218	30.5	30.4	30.0	0.161	94.7	NE	4	2-4 st......	0	0	32.3	Fog....	Little ice; water blue.
	4	30.219	32.0	32.0	31.5	0.170	95.0	0	0	1-4 ci.-st...	0	0	32.8	Hazy...	Much ice; water blue.
	6	30.221	36.3	36.0	35.2	0.190	90.3	0	0	1-4 ci.-st...	0	0	36.2	Fair....	Little ice; water blue.
	8	30.180	36.2	36.0	35.0	0.191	90.0	E	7	1-4 ci.-st...	0	0	36.8	Fair....	Do. do.
	10	30.208	38.5	38.3	38.0	0.230	98.5	E	5	1-4 ci.-st...	0	0	38.4	Fair....	Do. do.
	Noon.	30.205	39.0	38.8	38.0	0.216	90.7	0	0	1-4 ci.-st...	0	0	38.1	Fair....	Do. do.
	2	30.199	35.5	34.5	33.0	0.169	84.5	0	0	Ci.-st......	0	0	37.8	Hazy...	Do. do.
	4	30.197	45.1	44.5	42.0	0.234	79.8	0	0	3-4 ci.-st...	0	0	39.5	Hazy...	Considerable loose ice; water blue.
	6	30.186	43.1	43.0	40.9	0.231	83.3	0	0	Ci.-st......	0	0	37.5	Clear...	Do. do.
	8	30.183	39.5	39.4	38.8	0.232	95.4	0	0	2-4 ci.-st...	0	0	39.4	Fair....	Do. do.
	10	30.180	37.1	37.0	36.8	0.224	99.5	N	1	2-4 ci.-st...	0	0	37.9	Fair....	Do. do.
	Mid't.	30.159	36.9	36.5	36.0	0.205	95.0	N	1	2-4 ci.-st...	0	0	38.5	Fair....	Do. do.
Means..	......	30.196	37.49	.....	.....	0.206	91.39	....	....	....	....	....	....	....	

Latitude, 73°.15′ N.; longitude, 72°.06′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
July 18	2	30.157	35.8	35.6	34.8	0.191	90.0	0	0	Ci.-st...... St.........	0	0	37.1	Clear...	Little ice; water blue.
	4	30.140	34.3	34.0	33.4	0.182	91.7	E	3	1-4 st......	0	0	37.5	Fair....	Do. do.
	6	30.122	35.0	35.0	34.0	0.183	89.8	0	0	St.........	0	0	38.3	Clear...	Do. do.
	8	30.095	38.8	39.0	38.0	0.216	90.7	0	0	St.........	0	0	38.5	Clear...	Do. do.
	10	30.062	40.8	41.0	39.5	0.223	86.7	W	8	St.........	0	0	38.8	Clear...	Do. do.
	Noon.	30.041	44.2	44.0	43.0	0.264	91.8	W	8	Ci-cum .... 2-4 cum ...	S	0	38.5	Fair....	Do. do.
	2	30.019	42.5	42.0	41.8	0.270	98.5	NW	3	1-4 st......	0	0	41.3	Fair....	Loose pack; water blue.
	4	30.000	43.8	43.6	42.8	0.270	94.0	W	4	1-4 st......	0	0	39.2	Fair....	Little ice; water blue.
	6	29.961	46.3	46.0	45.6	0.297	96.1	NW	4	Cum	0	0	44.2	Clear...	Do. do.
	8	29.942	46.2	46.0	45.5	0.297	96.1	0	0	St.........	0	0	42.0	Clear...	Do. do.
	10	29.925	45.2	45.0	43.9	0.275	92.0	0	0	St.........	0	0	43.9	Clear...	Do. do.
	Mid't.	29.898	46.0	46.2	44.5	0.270	88.1	0	0	Cum	0	0	44.6	Clear...	Do. do.
Means..	......	30.030	44.56	.....	.....	0.245	92.36	....	....	....	....	....	....	....	

Latitude, 73°.57′ N.; longitude, 79°.00′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
July 19	2	29.888	47.0	47.0	45.0	0.273	84.7	0	0	Cum. and ci.-cum.	0	0	45.2	Clear...	Little ice; water blue.
	4	29.886	49.5	49.5	47.0	0.290	81.9	W	5	Cum. and ci.-cum.	0	0	45.2	Clear...	Do. do.
	6	29.878	51.0	51.0	48.0	0.296	79.0	W	4	Ci.-st......	0	0	45.4	Clear...	Do. do.
	8	29.867	51.8	51.8	48.0	0.289	75.8	W	5	Ci.-st......	0	0	45.5	Clear...	Do. do.
	10	29.865	57.5	57.0	51.7	0.322	69.2	0	0	Ci.-st......	0	0	44.0	Clear...	Do. do.
	Noon.	29.872	53.5	54.0	50.2	0.308	73.8	0	0	2-4 ci.-st...	0	0	51.2	Fair....	Loose pack; water green.
	2	29.869	56.5	55.9	50.6	0.296	65.8	0	0	2-4 ci.-st...	0	0	48.0	Fair....	Do. do.
	4	29.859	55.2	54.1	50.0	0.308	73.8	S	1	1-4 ci.-st...	0	0	48.2	Fair....	Do. do.
	6	29.823	46.8	46.0	43.2	0.238	76.7	E	3	1-4 st......	0	0	44.2	Fair....	Do. do.
	8	29.860	47.3	46.7	43.6	0.235	74.9	E	5	1-4 st......	0	0	44.3	Fair....	Little ice; water green.
	10	29.785	47.3	46.7	43.6	0.235	74.9	E	7	St.........	0	0	44.5	Clear...	Do. do.
	Mid't.	29.763	47.8	47.5	44.0	0.232	73.2	E	5	Ci.-st......	0	0	44.5	Clear...	Do. do.
Means..	......	29.816	50.92	.....	.....	0.277	75.31	....	....	....	....	....	....	....	

Off Elwyn Inlet.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
1873.	h.	In.	°	°	°								°		
July 20	2	29.739	45.8	45.4	44.0	0.238	88.1	NE	2	Ci	0	0	40.7	Clear..	Little ice; water green.
	4	29.698	47.0	46.7	45.4	0.190	92.2	E	3	Ci .... 1-4 cum ...	0	0	40.5	Fair....	Do. do.
	6	29.681	50.9	50.8	50.6	0.361	99.5	0	0	Ci .... 2-4 ci-cum .	0	0	40.0	Fair....	Do. do.
	8	29.645	51.0	50.2	49.2	0.335	92.7	NW	1	1-4 ci-st...	0	0	46.1	Fair...	Do. do.
	10	29.634	49.5	49.4	48.2	0.322	92.6	NW	5	1-4 ci-st...	0	0	42.0	Fair....	Do. do.
	Noon.	29.661	46.7	46.0	44.0	0.262	84.3	NW	7	2 4 ci. & st	0	0	41.4	Fair ...	Little ice; water blue.
	2	29.692	40.5	39.5	38.9	0.232	95.4	NW	14	2-4 ci.-cum.	0	0	38.9	Fair....	Much heavy ice; fast to floe; water green.
	4	29.683	41.0	41.0	39.8	0.235	91.2	NW	10	2-4 cum ... 1-4 ci. st...	0	0	35.1	Cloudy	
	6	29.688	42.0	40.8	40.1	0.241	95.5	N	5	4-4 st	0	0	34.2	Cloudy	Cast off at 6h 30m.
	8	29.695	36.2	36.0	36.0	0.212	100.0	NE	8	4 4 st......	0	0	34.0	Rain ...	Much ice; water green.
	10	29.670	35.7	35.5	35.0	0.197	94.9	NE	8	3-4 st ..... 1-4 n	0	SW	33.1	Cloudy	Do. do.
	Mid't.	29.651	35.0	35.0	34.9	0.203	99.5	N	15	1-4 ci.-st... 2-4 cum ...	0	S	32.0	Cloudy	Do. do.
Means..	......	29.678	43.44	.....	.....	0.256	93.82	....	....	....	....	....	....	....	

Off Elwyn Inlet.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
July 21	2	29.645	35.2	35.1	34.8	0.200	99.0	N	16	2-4 cum ...	0	0	32.4	Fair...	Much ice; water green.
	4	29.634	36.0	36.0	35.4	0.196	94.6	N	12	2-4 ci.-cum. and cum.	0	S	36.0	Fair...	Little ice; water green.
	6	29.618	35.8	35.8	35.3	0.197	94.8	NE	15	2-4 ci.-st...	0	0	35.3	Fair...	Do. do.
	8	29.630	35.0	35.0	34.5	0.193	94.8	NE	23	Ci.-st. .... St	0	0	32.2	Hazy ..	Do. do.
	10	29.620	37.2	37.0	36.3	0.197	90.2	0	0	Ci.-st. and 2 4 st.	0	0	35.4	Hazy	Do. do.
	Noon.	29.608	37.4	37.0	36.0	0.199	90.3	0	0	3-4 cum ... 1-4 st......	0	0	34.8	Cloudy	At anchor in Elwyn Inlet; surrounded by loose ice.
	2	29.615	36.8	36.5	36.0	0.205	95.0	NE	10	3-4 cum .. 1-4 st......	0	0	34.1	Cloudy	
	4	29.610	36.4	36.2	35.7	0.201	94.6	E	8	3-4 cum ...	0	0	34.2	Cloudy	
	6	29.605	36.0	35.0	35.4	0.197	94.8	W	3	3-4 cum ...	0	0	34.3	Cloudy	
	8	29.603	35.0	35.0	34.7	0.202	99.5	0	0	3-4 cum ..	0	0	33.5	Cloudy	Sounding in 130 fathoms; soft mud; temperature at this depth 25°.5; surface at the same time 31°.4; air 37°.0.
	10	29.596	34.8	34.5	34.0	0.189	94.8	0	0	Ci.-cum. & 2-4 cum.	0	0	32.7	Fair ..	
	Mid't.	29.615	33.5	33.5	33.4	0.190	99.0	SW	2	1-4 ci.-st...	0	0	32.9	Fair ..	
Means..	......	29.616	35.75	.....	.....	0.197	95.12	....	....	....	....	....	....	....	

Off Elwyn Inlet.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
July 22	2	29.617	33.0	33.4	32.9	0.182	94.7	SW	1	2-4 ci -st..	0	0	32.0	Fair...	
	4	29.616	33.8	34.0	34.0	0.195	100.0	W	1	2-4 ci.-st..	0	0	32.6	Fair...	
	6	29.644	35.2	35.0	34.5	0.193	94.9	SW	1	4-4 st	0	0	32.2	Fair....	
	8	29.642	36.8	36.6	36.0	0.205	95.0	W	2	2-4 st	0	0	33.0	Fair....	
	10	29.637	38.0	37.5	37.0	0.214	95.2	W	2	Ci.-cum ... 1-4 ci.-st...	0	0	32.8	Fair....	
	Noon.	29.642	38.5	38.0	37.0	0.207	90.5	N	10	1-4 ci.-cum	0	0	34.1	Fair....	Leave Elwyn Inlet.
	2	29.658	37.5	37.0	36.0	0.199	90.3	N	12	2 4 cum ..	0	0	31.8	Fair....	No ice; water green.
	4	29.662	35.8	35.8	35.0	0.191	90.0	E	10	1-4 st......	0	0	32.2	Fair....	Do. do.
	6	29.657	37.0	36.8	36.0	0.198	90.2	NE	13	2-4 ci.-cum. and cum.	0	0	33.5	Fair....	Do. do.
	8	29.627	35.8	36.0	35.6	0.201	95.2	N	7	1-4 ci.-st...	0	0	32.5	Hazy...	Along the edge of loose pack; water green.
	10	29.635	34.9	34.8	34.0	0.184	89.9	N	4	1-1 ci.-cum.	0	0	34.0	Hazy...	Along the edge of heavy floe.
	Mid't.	29.637	34.8	34.6	34.4	0.198	99.5	N	6	1-4 ci.-cum	0	0	33.6	Hazy...	Do.
Means..	......	29.639	35.92	.....	.....	0.197	93.79	....	....	....	....	....	....	....	

Off Elwyn Inlet.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
1873.	h.	In.	°	°	°								°		
July 23	2	29.642	33.6	33.5	33.0	0.182	94.7	NW	5	1-4 ci.-cum.	0	0	33.6	Hazy...	Along the edge of heavy floe.
	4	29.654	33.0	33.0	32.5	0.168	89.3	N	8	2-4 st......	0	0	33.2	Hazy...	Do.
	6	29.662	33.3	33.0	32.1	0.169	89.4	N	6	3-4 st......	0	0	33.4	Hazy...	Do.
	8	29.668	32.8	32.8	32.5	0.182	99.0	NW	7	4-4 st......	0	0	33.3	Fog	Do.
	10	29.663	33.4	33.2	33.0	0.188	99.5	N	12	4-4 st......	0	0	32.5	Fog	Do.
	Noon.	29.663	34.0	34.0	33.5	0.186	94.9	N	10	4-4 st......	0	0	33.8	Fog	Do.
	2	29.680	34.3	34.0	33.8	0.197	99.5	N	8	4-4 st......	0	0	33.5	Fog	Do.
	4	29.697	34.5	34.3	34.0	0.198	99.5	0	0	4-4 st......	0	0	33.6	Fog	Do.
	6	29.699	34.0	33.8	33.2	0.182	94.7	N	7	4-4 st......	0	0	34.2	Fog	Do.
	8	29.712	33.0	32.9	32.5	0.179	94.6	N	8	3-4 st......	0	0	33.8	Fog	Do.
	10	29.719	32.9	32.8	32.5	0.178	94.6	N	10	4-4 st......	0	0	31.9	Fog	Do.
	Mid't.	29.714	33.0	33.0	32.7	0.186	99.5	N	6	4-4 st......	0	0	32.5	Fog	Do.
Means..	......	29.681	33.49	.....	.....	0.183	95.77	....	....	....	.....	.....	....	....	

Off Elwyn Inlet.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
July 24	2	29.739	32.8	32.8	32.0	0.182	99.5	N	15	4-4 st......	0	0	31.4	Fog	Off the pack; water green.
	4	29.752	33.0	32.8	32.5	0.186	99.0	N	8	4-4 st......	0	0	32.0	Fog	Do. do.
	6	29.764	33.8	33.9	33.5	0.185	94.8	N	12	4-4 st......	0	0	33.3	Fog	Do. do.
	8	29.772	34.0	34.0	33.8	0.195	99.0	N	15	4-4 st......	0	0	33.8	Fog	Do. do.
	10	29.763	34.3	34.3	34.0	0.197	99.5	N	12	4-4 st......	0	0	34.2	Fog	Do. do.
	Noon.	29.762	34.8	34.8	34.5	0.201	99.5	N	15	4-4 st......	0	0	34.5	Fog	Do. do.
	2	29.760	35.0	35.0	34.8	0.203	99.5	N	8	4-4 st......	0	0	34.9	Fog	Do. do.
	4	29.760	34.5	34.2	34.0	0.197	99.5	N	7	4-4 st......	0	0	34.6	Fog	Do. do.
	6	29.760	34.0	34.6	33.8	0.189	99.5	N	9	4-4 st......	0	0	33.8	Fog	Do. do.
	8	29.756	34.0	34.0	33.0	0.186	94.6	N	15	4-4 st......	0	0	31.0	Fog	Do. do.
	10	29.719	33.0	33.0	32.8	0.186	99.0	N	14	4-4 st......	0	0	33.5	Fog	Do. do.
	Mid't.	29.715	33.4	33.3	33.0	0.188	99.0	N	5	3-4 st......	0	0	33.6	Cloudy.	Do. do.
Means..		29.752	33.88	.....	.....	0.191	98.53	....	....	....	.....	.....	....	....	

Off Elwyn Inlet.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
July 25	2	29.707	33.6	33.6	33.2	0.182	94.7	N	2	3-4 st......	0	0	33.0	Cloudy.	At anchor in Elwyn Inlet.
	4	29.692	34.0	34.0	33.6	0.183	94.9	0	0	3-4 st......	0	0	34.0	Cloudy	Do.
	6	29.680	33.1	33.0	32.9	0.187	99.0	NW	6	2-4 cum ... 1-4 st......	0	0	33.5	Cloudy.	Do.
	8	29.667	38.5	38.5	38.0	0.232	95.3	NW	8	St..........	0	0	32.8	Hazy...	Among pack; water green.
	10	29.652	37.2	37.0	36.3	0.199	90.3	W	5	St..........	0	0	32.8	Hazy...	Do. do.
	Noon.	29.634	41.4	41.3	40.6	0.246	95.5	0	0	3-4 st......	0	0	33.8	Hazy...	Do. do.
	2	29.630	40.9	40.4	39.5	0.230	91.1	0	0	3-4 cum. & st.	0	0	34.8	Hazy...	Do. do.
	4	29.620	39.8	39.0	38.0	0.216	90.7	0	0	Cum*...... 3-4 st......	0	0	35.2	Hazy...	Do. do.
	6	29.609	37.3	37.2	36.6	0.209	95.1	N	1	3-4 st......	0	0	32.9	Hazy...	Do. do.
	8	29.599	36.2	36.0	35.2	0.191	90.0	NW	6	Cum ...... 2-4 st......	0	0	34.0	Hazy...	Do. do.
	10	29.599	35.2	35.0	34.2	0.183	89.8	NW	8	4-4 st......	0	0	35.0	Cloudy.	Do. do.
	Mid't.	29.599	33.8	33.7	33.5	0.192	99.0	NW	9	4-4 st......	0	0	34.8	Fog	Do. do.
Means..	......	29.641	36.75	.....	.....	0.204	93.78	....	....	....	.....	.....	....	....	

Off Elwyn Inlet.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
187[illegible].	h.	In.	°	°	°								°		
July 26	2	29.630	33.5	33.4	33.2	0.188	99.0	NW	10	4-4 st......	0	0	34.3	Fog	In the pack; water green.
	4	29.656	33.5	33.4	33.1	0.189	99.0	NW	8	4-4 st......	0	0	33.5	Fog	Little ice; water green.
	6	29.670	33.7	33.5	33.0	0.182	94.7	NW	8	4-4 st......	0	0	33.8	Fog	Do. do.
	8	29.687	33.6	33.4	33.0	0.181	94.6	N	6	4-4 st......	0	0	33.6	Fog	Do. do.
	10	29.690	33.8	33.8	33.4	0.186	94.7	NW	10	4-4 st......	0	0	33.5	Fog	No ice; water green.
	Noon	29.693	34.0	34.0	33.5	0.186	94.7	NW	15	4-4 st......	0	0	33.8	Fog	Along the floe-edge; water green.
	2	29.727	35.0	35.0	34.3	0.185	94.0	NW	12	4-4 st......	0	0	34.0	Fog	Do. do.
	4	29.752	35.4	35.2	35.0	0.204	99.0	N	6	4-4 st......	0	0	34.5	Fog	Little ice; water green.
	6	29.740	34.5	34.2	34.0	0.196	99.5	N	14	4-4 st......	0	0	34.7	Fog	Do. do.
	8	29.742	32.9	33.1	32.9	0.187	99.0	N	16	4-4 st......	0	0	33.1	Fog	Do. do.
	10	29.781	34.0	34.0	33.6	0.186	94.7	N	18	4-4 st......	0	0	33.8	Fog	Do. do.
	Mid't.	29.771	33.1	33.0	32.8	0.187	99.0	N	15	4-4 st......	0	0	32.9	Fog	Do. do.
Means..	......	29.712	33.86	.....	.....	0.188	96.66	....	....	....	....	....	....	....	

Latitude, $73^{\circ}.55'$ N.; longitude, $84^{\circ}.30'$ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
July 27	2	29.783	33.4	33.3	33.0	0.188	99.0	N	12	4-4 st......	0	0	32.8	Fog	Little ice; water green.
	4	29.803	34.0	34.0	33.8	0.194	99.0	N	12	4-4 st......	0	0	33.0	Fog	Do. do.
	6	29.808	34.2	34.1	33.8	0.194	99.0	N	10	4-4 st......	0	0	33.6	Fog	Do. do.
	8	29.813	34.8	34.5	34.3	0.197	99.0	NE	10	4-4 st......	0	0	33.7	Fog	No ice; water green.
	10	29.818	34.1	34.0	33.8	0.195	99.0	NE	15	4-4 st......	0	0	33.7	Fog	Do. do.
	Noon	29.817	34.5	34.3	34.0	0.196	99.0	NE	12	4-4 st......	0	0	33.8	Fog	Do. do.
	2	29.822	34.8	34.5	34.2	0.183	89.8	NE	10	4-4 st......	0	0	34.2	Fog	Do. do.
	4	29.839	35.8	35.6	35.2	0.197	94.9	N	2	4-4 st......	0	0	35.0	Fog	Do. do.
	6	29.839	3[illegible].5	35.0	34.8	0.203	99.0	N	1	4-4 st......	0	0	35.0	Fog	Do. do.
	8	29.840	34.3	33.9	33.5	0.189	94.8	N	1	3-4 st......	0	0	35.9	Fog	Do. do.
	10	29.838	32.3	32.1	32.0	0.180	99.0	N	2	2-4 st......	0	0	35.5	Fog	Do. do.
	Mid't.	29.837	32.1	32.1	32.0	0.180	99.0	NW	1	1-4 st......	0	0	34.3	Hazy...	Do. do.
Means..	......	29.821	34.13	.....	.....	0.191	97.54	....	....	....	....	....	....	....	

Latitude, $73^{\circ}.54'$ N.; longitude, $88^{\circ}.39'$ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
July 28	2	29.831	33.8	34.0	33.1	0.175	89.5	0	0	1-4 st......	0	0	35.4	Fair....	No ice; water green.
	4	29.828	35.6	35.6	35.0	0.197	94.9	0	0	St.........	0	0	35.0	Hazy...	Do. do.
	6	29.830	38.1	38.0	37.1	0.207	90.5	0	0	St.........	0	0	34.3	Hazy...	Do. do.
	8	29.838	41.3	41.3	40.0	0.235	91.2	0	0	St.........	0	0	34.0	Clear...	Do. do.
	10	29.849	40.8	40.6	39.2	0.225	91.0	NW	5	St. & ci.-st.	0	0	32.8	Clear...	Do. do.
	Noon.	29.853	39.6	39.3	38.0	0.216	90.7	NW	10	Ci.-st......	0	0	33.7	Clear...	Do. do.
	2	29.829	36.2	36.3	35.8	0.205	95.0	W	16	1-4 ci.-st...	0	0	35.5	Fair....	Little ice; water green.
	4	29.856	36.9	37.0	36.2	0.199	90.3	W	14	2-4 ci.-st...	0	0	34.6	Fair....	Among loose ice; water green.
	6	29.875	37.9	38.1	37.5	0.217	95.3	W	7	3-4 ci-cum .	0	0	37.3	Cloudy.	Do. do.
	8	29.878	37.8	38.0	37.0	0.207	90.5	W	10	1-4 ci.-cu. & ci.-st.	0	0	38.3	Fair....	Do. do.
	10	29.882	37.5	37.5	36.5	0.203	90.4	W	8	2-4 cum ... 1-4 st......	0	0	36.3	Cloudy.	Do. do.
	Mid't.	29.879	37.0	37.1	36.0	0.199	90.3	W	3	2-4 cum ... 1-4 st......	0	0	33.0	Cloudy.	Do. do.
Means..	......	29.852	37.71	.....	.....	0.207	91.63	....	....	....	....	....	....	....	

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer.		Force of vapor.	Relative humidity.	Wind.		Clouds.	Direction of clouds.		Temperature of sea.	Weather.	Remarks.
				Dry.	Wet.			Direction.	Velocity.		Upper.	Lower.			
							Off Jackson Inlet.								
1873.	h.	In.	°	°	°								°		
July 29	2	29.879	34.2	34.0	33.5	0.185	94.7	0	0	4-4 st......	0	0	33.5	Cloudy.	Among loose ice; water green.
	4	29.868	35.1	35.1	34.6	0.193	94.9	0	0	4-4 st......	0	0	34.0	Cloudy.	Do. do.
	6	29.859	36.3	36.0	35.5	0.201	95.0	0	0	4-4 st......	0	0	34.1	Cloudy.	Do. do.
	8	29.851	37.0	37.0	36.5	0.209	95.1	N	5	4-4 st......	0	0	35.2	Cloudy.	Do. do.
	10	29.847	36.2	36.0	35.7	0.210	99.0	N	8	4-4 st......	0	0	35.6	Cloudy.	Do. do.
	Noon.	29.844	39.7	39.5	38.6	0.222	93.0	N	3	4-4 st......	0	0	37.0	Cloudy.	Do. do.
	2	29.842	43.3	43.0	41.5	0.234	87.0	0	0	2-4 cum ... 1-4 st......	0	0	38.2	Cloudy.	Do. do.
	4	29.830	42.4	42.2	41.2	0.244	91.4	N	2	2-4 cum ... 1-4 st......	0	0	39.3	Cloudy.	Do. do.
	6	29.818	40.5	40.0	39.2	0.225	91.0	0	0	2-4 cum ... 1-4 st......	0	0	38.8	Cloudy.	Do. do.
	8	29.801	38.3	38.0	37.2	0.207	90.5	NE	6	3-4 cum. & ci.-st.	0	0	37.5	Cloudy.	Off the floe; water green.
	10	29.799	36.0	35.9	35.6	0.208	98.0	NE	2	3-4 cum. & ci.-st.	0	0	35.1	Cloudy.	Do. do.
	Mid't.	29.772	35.5	35.3	34.9	0.200	95.0	SE	1	2-4 cum ... 1-4 st......	0	0	34.2	Cloudy.	Loose ice; water green.
Means..	......	29.831	37.88	.....	.....	0.211	93.72	....	....	....	.....	.....	....	....	
							Off Port Bowen.								
July 30	2	29.759	35.5	35.4	35.0	0.197	94.9	SE	5	4-4 st......	0	0	34.3	Cloudy	Loose ice; water green.
	4	29.746	35.1	35.2	34.8	0.202	99.0	SE	3	4-4 st......	0	0	34.5	Cloudy.	Do. do.
	6	29.735	35.0	34.7	34.0	0.184	90.0	SE	2	4-4 st......	0	0	34.0	Cloudy.	Do. do.
	8	29.708	35.5	35.3	34.8	0.197	94.0	0	0	4-4 st......	0	0	33.8	Lt. rain.	Do. do.
	10	29.693	37.8	37.5	37.0	0.214	95.2	0	0	4-4 st......	0	0	36.3	Lt. rain.	No ice; water green.
	Noon.	29.679	35.3	35.5	35.2	0.199	95.0	0	0	4-4 st......	0	0	36.8	Lt. rain.	Do.
	2	29.672	36.5	36.0	35.4	0.197	94.8	NW	15	2-4 st......	0	0	35.2	Fair....	Loose pack; water green
	4	29.659	35.0	35.0	34.4	0.188	94.5	NW	20	St.........	0	0	33.8	Clear...	Do. do.
	6	29.667	37.0	37.0	35.9	0.199	90.0	NW	18	3	0	0	33.1	Clear...	Do. do.
	8	29.668	36.9	36.8	35.4	0.184	85.3	NW	12	1-4 st......	0	0	33.2	Fair....	Do. do.
	10	29.661	34.6	34.2	33.3	0.175	89.9	NW	10	2-4 st......	0	0	33.4	Fair....	Do. do.
	Mid't.	29.659	33.8	33.5	33.1	0.183	95.0	NW	9	1-4 st......	0	0	32.5	Fair....	Little ice; water green.
Means..	......	29.692	35.67	.....	.....	0.191	93.13	....	....	....	.....	.....	....	....	
							Latitude, 73°.13′ N.; longitude, 90°.37′ W., at noon.								
July 31	2	29.660	33.0	33.0	32.5	0.179	94.6	NW	15	1-4 st......	0	0	32.4	Fair....	Little ice; water green.
	4	29.652	33.0	32.9	32.0	0.169	89.4	NW	20	1-4 ci.-cum. and ci.-st.	0	0	32.3	Fair....	Do. do.
	6	29.660	33.7	33.5	33.0	0.182	91.7	NW	18	1-4 ci.-cum. and ci.-st.	0	0	32.5	Fair....	Do. do.
	8	29.660	34.2	34.0	33.0	0.175	89.5	NW	15	2-4 ci.-cum. and ci.-st.	0	0	33.0	Fair....	Do. do.
	10	29.664	34.0	34.0	33.0	0.175	89.5	NW	18	3-4 ci.-cum. and ci.-st.	0	0	33.2	Cloudy.	Do. do.
	Noon.	29.648	35.0	34.0	33.0	0.175	89.5	NW	18	1-4 ci.-st. & st.	0	0	33.0	Fair....	Do. do.
	2	29.619	35.8	35.4	34.9	0.197	94.9	NW	18	2-4 ci.-st...	0	0	36.1	Fair....	Do. do.
	4	29.669	34.9	34.8	33.8	0.183	89.8	NW	16	3-4 st......	0	0	33.5	Cloudy.	Do. do.
	6	29.681	34.8	34.7	33.7	0.180	89.0	NW	16	2-4 ci.-st...	0	0	33.2	Fair....	Do. do.
	8	29.689	34.3	34.1	33.4	0.176	89.1	NW	18	3-4 cu. & st.	0	SE	32.2	Cloudy.	Do. do.
	10	29.685	33.9	33.9	32.9	0.175	89.5	NW	20	3-4 st......	0	0	32.2	Cloudy.	Little ice; water blue.
	Mid't.	29.718	33.4	33.4	32.6	0.171	89.4	NW	24	3-4 st......	0	0	32.2	Cloudy.	Do. do.
Means..	......	29.669	34.17	.....	.....	0.178	90.74	....	....	....	.....	.....	....	....	

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
										Latitude, 73°.00′ N.; longitude, 91°.26′ W., at noon.					
1873.	h.	In.	°	°	°								°		
Aug. 1	2	29.726	33.3	33.2	32.3	0.168	89.3	NW	25	1-4 st	0	0	33.1	Fair	Little ice; water green.
	4	29.735	33.0	33.0	32.5	0.178	94.6	NW	25	St	0	0	33.4	Clear ...	Do. do.
	6	29.752	34.8	34.6	33.7	0.179	89.7	NW	20	St	0	0	34.5	Clear ...	Do. do.
	8	29.765	36.0	36.0	35.0	0.19	90.0	NW	15	Ci.-st	0	0	34.3	Clear ...	Do. do.
	10	29.748	37.4	37.0	35.4	0.184	85.3	NW	15	Ci.-st	0	0	32.4	Clear ...	Little ice; water blue.
	Noon.	29.764	38.5	38.3	37.2	0.207	90.5	0	0	1-4 ci.-st ...	0	0	34.5	Fair	Do. do.
	2	29.775	39.2	39.0	37.0	0.194	81.6	S	2	1-4 ci.-st ...	0	0	38.5	Fair	Do. do.
	4	29.773	41.0	41.0	39.0	0.212	82.4	0	0	1-4 ci.-st ...	0	0	39.2	Fair	Do. do.
	6	29.779	41.0	40.8	38.7	0.210	82.0	NW	2	1-4 ci.-st ...	0	0	37.8	Fair	Along the pack; water blue.
	8	29.799	39.0	38.8	37.8	0.216	90.7	N	4	1-4 ci.-st ...	0	0	33.8	Fair	Much and heavy ice; water blue.
	10	29.801	37.8	37.6	36.5	0.203	90.4	NW	2	1-4 ci.-st ...	0	0	32.8	Fair	Do. do.
	Mid't.	29.810	37.0	37.4	36.5	0.202	90.3	W	1	Ci.-st ...... Ci.-cum	0	0	32.9	Clear ...	Little ice; water blue.
Means..	......	29.769	37.33	.....	.....	0.195	88.07	....	....	....	.....	.....	....	....	
										Latitude, 72°.44′ N.; longitude, 92°.31′ W., at noon.					
Aug. 2	2	29.850	37.2	37.0	35.5	0.188	85.5	0	0	1-4 cum	0	0	33.8	Fair	Little ice; water blue.
	4	29.873	40.0	40.0	38.0	0.203	82.0	NW	8	St	0	0	35.3	Clear ...	Do. do.
	6	29.882	42.0	41.9	39.6	0.217	82.6	NW	5	St	0	0	38.7	Clear ...	Do. do.
	8	29.879	37.4	37.2	35.8	0.199	90.3	N	15	St	0	0	37.3	Clear ...	Do. do.
	10	29.858	37.2	37.0	35.7	0.198	90.1	W	15	St	0	0	35.3	Clear ...	Do. do.
	Noon.	29.848	38.0	38.0	36.5	0.197	95.8	NW	6	3-4 st	0	0	35.3	Cloudy	Do. do.
	2	29.838	40.0	40.0	38.8	0.225	91.0	W	14	2-4 ci.-st ...	0	0	35.0	Fair	Do. do.
	4	29.855	41.3	41.2	39.8	0.228	86.9	W	10	2-4 ci-cum..	0	0	37.4	Fair	Do. do.
	6	29.840	44.5	44.3	43.0	0.264	91.8	NW	15	Ci.-st ...... St	0	0	36.3	Clear ...	Do. do.
	8	29.830	44.3	44.0	42.0	0.241	83.6	W	3	Ci.-st	0	0	36.5	Clear.	Do. do.
	10	29.826	43.1	43.0	41.0	0.231	83.3	SW	8	2-4 cum .... 1-4 st	0	0	36.8	Cloudy	Do. do.
	Mid't.	29.822	41.3	41.0	39.8	0.235	91.2	SW	10	2-4 cum. & ci.-cum. 1-4 st	0	0	36.3	Cloudy	Do. do.
Means..	......	29.849	40.53	.....	.....	0.219	87.84	....	....	....	.....	.....	....	....	
										Off Fury Beach.					
Aug. 3	2	29.817	40.0	40.0	38.0	0.203	82.0	S	3	1-4 st	0	0	36.5	Fair	Little ice; water green.
	4	29.828	39.6	39.5	38.0	0.210	86.3	0	0	1-4 ci.-st ...	0	0	37.0	Fair	Do. do.
	6	29.830	39.0	39.0	37.5	0.206	86.2	W	2	1-4 ci.-st ...	0	0	37.2	Fair ...	Do. do.
	8	29.782	38.0	37.9	36.2	0.186	81.1	0	0	2-4 ci.-st ...	0	0	37.0	Fair	Do. do.
	10	29.743	38.0	37.8	36.4	0.196	85.8	SW	10	1-4 ci.-st ...	0	0	36.8	Fair	Do. do.
	Noon.	29.730	38.0	37.9	36.7	0.201	88.2	SW	12	1-4 cum	0	0	35.9	Fair	Do. do.
	2	29.718	38.1	38.0	37.0	0.207	90.5	SW	15	3-4 cum	0	NE	35.5	Cloudy .	Do. do.
	4	29.710	37.6	37.6	36.7	0.200	90.0	SW	10	3-4 ci.-st ... 1-4 n	0	NE	34.0	Cloudy .	Do. do.
	6	29.710	36.9	36.8	35.9	0.198	90.2	SW	8	4-4 st	0	0	34.0	Lt. rain .	Do. do.
	8	29.700	35.6	35.5	35.0	0.197	94.9	SW	6	4-4 st	0	0	33.2	Rain ...	Along floe; water green.
	10	29.681	35.5	35.2	34.9	0.203	99.0	SW	8	3-4 st	0	0	34.9	Cloudy	Do. do.
	Mid't	29.670	35.0	34.5	34.0	0.189	94.8	SW	6	4-4 st	0	0	34.1	Rain ...	Heavy ice; water green.
Means..	......	29.743	37.61	.....	.....	0.200	89.09	....	....	....	.....	.....	....	....	

Latitude, 72°.47′ N.; longitude, 91°.00′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
1873.	h.	In.	°	°	°								°		
Aug. 4	2	29.665	35.0	35.0	34.8	0.202	98.0	SW	8	4-4 st......	0	0	33.4	Lt. rain.	Little ice; water green.
	4	29.662	35.2	35.2	35.1	0.205	98.5	0	0	4-4 st......	0	0	34.2	Fog....	Do. do.
	6	29.678	36.0	36.0	35.8	0.210	99.0	0	0	4-4 st......	0	0	35.0	Cloudy.	Do. do.
	8	29.693	36.4	36.0	35.8	0.210	99.0	0	0	3-4 st......	0	0	35.3	Cloudy.	Do. do.
	10	29.687	39.5	39.3	38.2	0.216	90.7	0	0	2-4 cum...	0	0	37.2	Hazy...	Do. do.
										1-4 st......		0			
	Noon.	29.680	36.3	36.0	35.8	0.210	99.0	S	10	4-4 st......	0	0	36.0	Lt. rain.	Off the pack; water green.
	2	29.675	36.8	36.5	36.3	0.213	99.0	0	0	4-4 st......	0	0	36.3	Lt. rain.	Do. do.
	4	29.673	37.4	38.4	38.0	0.223	95.3	0	0	3-4 st......	0	0	35.4	Cloudy.	Do. do.
	6	29.678	37.2	37.0	36.8	0.218	98.0	0	0	4 4 st......	0	0	35.3	Hazy...	Do. do.
	8	29.668	37.2	37.0	36.9	0.219	98.5	0	0	4-4 st......	0	0	35.1	Fog....	Do. do.
	10	39.671	37.1	37.2	37.0	0.220	98.5	W	3	3-4 st......	0	0	34.5	Hazy...	Little ice; water green.
	Mid't.	29.681	36.1	36.0	35.9	0.211	98.5	W	9	3-4 st......	0	0	33.2	Hazy...	Heavy pack; water green.
Means..	.....	29.676	36.68	.....	.....	0.213	97.67	....	....	....	.....	.....	....	....	

Latitude, 72°.37′ N.; longitude, 95°.30′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
Aug. 5	2	29.692	35.5	35.5	35.0	0.197	94.9	W	15	2-4 ci.-cum.	0	0	33.0	Cloudy.	Off the pack; water green.
										1-4 st......					
	4	29.710	35.6	35.5	35.0	0.197	94.9	W	18	2-4 cum...	S	E	33.5	Cloudy.	Do. do.
										1-4 st......					
	6	29.719	35.8	35.7	35.2	0.198	95.0	W	18	2-4 ci.-cum.	0	E	33.6	Cloudy.	Do. do.
										1-4 st......					
	8	29.734	36.0	35.9	35.8	0.210	99.0	W	20	2-4 cum...	SW	0	33.8	Cloudy.	Do. do.
										1-4 st......					
	10	29.747	37.5	37.0	36.7	0.218	98.0	N	14	2-4 ci.-st...	0	0	33.2	Fair....	Little ice; water blue.
	Noon.	29.760	38.5	38.5	37.5	0.212	90.6	SW	3	1-4 st......	0	0	34.6	Fair....	Off the pack; water green.
	2	29.765	37.8	37.6	37.0	0.214	95.2	W	12	St	0	0	36.3	Clear...	Do. do.
	4	29.765	38.5	38.5	36.0	0.179	76.8	W	10	St	0	0	33.8	Clear...	Do. do.
	6	29.755	37.0	37.0	35.5	0.188	85.4	W	12	St	0	0	34.3	Clear...	Do. do.
	8	29.760	37.0	36.8	35.5	0.194	90.2	N	9	2-4 ci.-st...	0	0	34.3	Fair....	Little ice; water blue.
	10	29.730	35.6	35.7	34.9	0.191	90.0	NW	6	3-4 st......	0	0	33.0	Cloudy.	Do. do.
	Mid't.	29.716	35.6	35.5	34.8	0.190	90.0	W	8	4-4 st......	0	0	32.5	Cloudy.	Little ice; water green.
Means..	......	29.738	36.70	....	.....	0.199	91.67	....	....	....	.....	.....	....	....	

Off Port Bowen.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
Aug. 6	2	29.674	34.5	34.5	34.0	0.189	94.8	W	15	4-4 st......	0	0	32.5	Cloudy.	Off the pack; water green.
	4	29.665	34.5	34.5	34.0	0.189	94.8	W	12	4-4 st......	0	0	33.0	Cloudy.	Do. do.
	6	29.663	35.0	35.0	34.5	0.193	94.9	W	8	3-4 st......	0	0	32.7	Cloudy.	Among loose ice; water green.
	8	29.650	35.3	35.3	34.5	0.194	95.0	W	10	3-4 st......	0	0	33.3	Cloudy.	Do. do.
	10	29.646	37.0	36.8	36.0	0.200	90.4	W	12	2-4 cum....	0	0	33.8	Cloudy.	Do. do.
										1-4 st......	0	0			Do. do.
	Noon.	29.601	35.3	35.2	34.7	0.198	95.0	SW	15	4-4 st......	0	0	34.3	Cloudy.	
	2	29.683	36.5	36.0	35.2	0.191	90.0	SW	6	Ci.-st......	0	0	33.8	Clear...	Do. do.
	4	29.689	39.1	39.0	37.0	0.194	81.6	S	4	Ci.-st......	0	0	33.6	Clear...	Among loose ice; water blue.
	6	29.694	39.4	39.0	37.9	0.216	90.7	S	5	1-4 st......	0	0	33.5	Fair....	Do. do.
	8	29.683	37.4	37.4	36.5	0.203	90.4	SW	12	St.........	0	0	34.0	Clear...	Do. do.
	10	29.694	35.5	35.5	35.0	0.197	94.9	W	15	Ci.-st......	0	0	33.5	Clear...	Do. do.
	Mid't.	29.690	35.0	35.0	34.4	0.184	90.0	S	13	1-4 ci.-cu. & ci.-st.	0	0	32.8	Fair....	Do. do.
Means..	......	29.669	36.21	.....	.....	0.196	91.88	....	....	....	.....	.....	....	....	

Off Jackson Inlet.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
1873.	h.	In.	°	°	°								°		
Aug. 7	2	29.700	33.0	33.0	32.8	0.186	99.0	S	15	3-4 st......	0	0	32.6	Cloudy.	Among loose ice; water green.
	4	29.712	33.5	33.5	33.2	0.185	96.0	SW	15	3-4 st......	0	0	33.0	Cloudy.	Do. do.
	6	29.720	33.8	33.8	33.5	0.184	95.0	SW	12	1-4 st......	0	0	33.5	Fair....	Do. do.
	8	29.715	34.5	34.5	34.0	0.189	94.8	S	10	St.........	0	0	34.0	Clear...	Do. do.
	10	29.705	36.6	36.5	36.0	0.205	95.0	S	15	St.........	0	0	34.6	Clear...	Do. do.
	Noon.	29.685	37.0	37.0	36.5	0.209	95.1	S	15	Ci.-cum ... 1-4 st......	0	0	35.0	Fair....	Do. do.
	2	29.678	36.6	36.4	35.9	0.204	94.9	SW	9	3-4 ci.-st. ..	0	0	33.0	Cloudy.	Do. do.
	4	29.651	37.9	38.0	37.2	0.207	90.4	S	14	3-4 st......	0	0	33.8	Cloudy.	Do. do.
	6	29.623	37.8	37.3	36.8	0.215	95.2	S	4	2-4 ci.-st...	0	0	34.3	Fair....	Do. do.
	8	29.588	37.1	37.0	36.6	0.220	95.3	S	10	2-4 st......	0	0	33.9	Fair....	Off the pack; water green.
	10	29.560	36.0	36.0	35.6	0.200	94.8	S	18	2-4 st......	0	0	33.8	Fair....	Do. do.
	Mid't.	29.582	35.5	35.4	35.0	0.204	95.0	S	16	3-4 cum ... 1-4 st......	0	0	33.5	Cloudy.	Do. do.
Means..	......	29.660	35.77	.....	.....	0.201	95.04	....	....	....	....	....	....	....	

Between Batty Bay and Port Bowen.

Date.	Time.	Barometer.	Exposed thermometer.	Dry.	Wet.	Force of vapor.	Relative humidity.	Direction.	Velocity.	Clouds.	Upper.	Lower.	Temperature of sea.	Weather.	Remarks.
Aug. 8	2	29.578	35.0	35.0	34.8	0.203	98.5	S	20	3-4 cum ... 1-4 st......	0	0	33.8	Cloudy.	Off the pack; water green.
	4	29.583	35.5	35.3	35.0	0.204	99.0	SW	15	3-4 st......	0	0	33.0	Cloudy.	Do. do.
	6	29.580	36.0	36.0	35.6	0.200	95 0	W	12	2-4 st......	0	0	32.4	Cloudy.	Among loose ice; water green.
	8	29.565	36.2	36.1	36.0	0.212	99.5	W	10	3-4 st......	0	0	33.1	Lt. rain	Do. do.
	10	29.558	35.5	35.5	35.3	0.205	99.0	W	15	4-4 st......	0	0	33.3	Lt. rain.	Little ice; water green.
	Noon.	29.537	35.4	35.3	35.0	0.204	98.0	SW	12	4-4 st......	0	0	33.0	Rain ...	Do. do.
	2	29.530	34.9	34.8	34.7	0.196	99.0	S	10	4-4 st......	0	0	34.0	Rain ...	Do. do.
	4	29.526	34.9	35.0	34.7	0.197	94.8	S	12	3-4 st......	0	0	34.7	Rain ...	Do. do.
	6	29.559	35.4	35.4	35.2	0.205	99.0	NW	12	4-4 st......	0	0	33.9	Rain ...	Do. do.
	8	29.607	35.3	35.2	35.0	0.204	99.0	0	0	4-4 st......	0	0	33.5	Cloudy.	Off the pack; water blue.
	10	29.659	35.0	35.0	34.7	0.203	98.0	NW	5	3-4 cum ...	0	0	33.2	Cloudy.	Do. do.
	Mid't.	29.726	33.9	34.1	33.7	0.188	94.6	W	15	St.........	0	0	32.8	Clear...	Do. do.
Means..	......	29.584	35.25	.....	.....	0.202	97.78	....	....	....	....	....	....	....	

Latitude, 72°.29′ N.; longitude, 92°.58′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Dry.	Wet.	Force of vapor.	Relative humidity.	Direction.	Velocity.	Clouds.	Upper.	Lower.	Temperature of sea.	Weather.	Remarks.
Aug. 9	2	29.753	35.2	35.0	34.0	0.183	89.8	W	20	St.........	0	0	33.4	Clear...	Off the pack; water blue.
	4	29.807	35.5	35.5	35.0	0.197	94.9	W	15	St.........	0	0	33.2	Clear ..	Do. do.
	6	29.890	36.0	35.8	35.5	0.200	95.0	W	15	St.........	0	0	32.1	Clear...	Do. do.
	8	29.938	34.5	34.5	34.0	0.189	94.8	0	0	1-4 cu. & st.	0	0	30.8	Fair....	Do. do.
	10	29.959	41.3	41.0	39.0	0.212	82.4	0	0	1-4 cu. & st.	0	0	31.5	Fair....	Do. do.
	Noon.	29.977	38.3	38.0	36.4	0.192	85.6	SW	12	2-4 cu. & st.	N	0	33.4	Fair....	Little ice; water green.
	2	30.000	36.5	36.5	35.0	0.184	85.3	W	6	St.........	0	0	33.5	Clear...	Do. do.
	4	30.010	35.0	34.9	34.0	0.183	89.8	W	8	St.........	0	0	34.5	Clear...	Do. do.
	6	30.015	36.0	36.0	34.5	0.193	94.9	NE	10	St.........	0	0	33.6	Clear...	Do. do.
	8	30.019	35.3	35.3	34.0	0.170	84.5	NE	2	2-4 st......	0	0	33.5	Fair....	Among loose ice; water green.
	10	30.023	34.0	34.0	33.0	0.175	89.5	NE	6	2-4 cum ... 1-4 st......	0	0	33.7	Cloudy.	Do. do.
	Mid't.	30.012	33.0	33.0	32.0	0.168	89.3	NE	10	3-4 cum ... 1-4 st......	0	0	31.8	Cloudy.	Do. do.
Means..	......	29.950	35.88	.....	.....	0.187	89.65	....	....	....	....	....	....	....	

Off Cape Garry.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
1873.	h.	In.	°	°	°								°		
Aug. 10	2	29. 990	32. 2	32. 2	31. 3	0. 164	89. 6	NE	8	3-4 cum ... 1-4 st......	0	0	32. 3	Cloudy.	Among loose ice; water green.
	4	29. 983	32. 0	32. 0	31. 0	0. 162	89. 6	N	12	3-4 cum ... 1-4 st......	0	0	31. 7	Cloudy.	Do. do.
	6	29. 985	34. 1	34. 0	33. 3	0. 175	89. 5	N	10	2-4 st......	0	0	32. 1	Fair....	Do. do.
	8	29. 987	36. 2	36. 0	35. 3	0. 191	90. 0	W	6	2-4 st......	0	0	32. 5	Fair....	Little ice; water green.
	10	29. 989	38. 8	38. 8	37. 0	0. 194	81. 6	0	0	1-4 st......	0	0	33. 1	Fair....	Do. do.
	Noon.	29. 990	41. 0	41. 0	38. 4	0. 196	77. 9	NW	5	St.........	0	0	33. 7	Clear...	Do. do.
	2	29. 998	37. 5	37. 3	36. 0	0. 195	88. 0	0	0	St.........	0	0	34. 3	Clear...	Do. do.
	4	29. 995	43. 3	43. 0	40. 7	0. 220	79. 0	NE	8	1-4 st......	0	0	35. 0	Fair....	Do. do.
	6	29. 998	40. 5	40. 5	39. 0	0. 219	86. 6	NE	5	2-4 st......	0	0	34. 1	Fair....	Do. do.
	8	29. 999	37. 9	37. 8	36. 7	0. 205	90. 4	NE	8	1-4 st......	0	0	33. 0	Fair....	Do. do.
	10	30. 001	34. 9	34. 8	34. 0	0. 183	89. 8	NE	10	1-4 st......	0	0	33. 3	Fair....	Do. do.
	Mid't.	30. 003	34. 9	34. 8	34. 0	0. 183	89. 8	N	15	1-4 st......	0	0	33. 5	Fair....	Do. do.
Means..	......	29. 993	36. 94	....	....	0. 191	86. 82	....	....	....	....	....	....	....	

Off Cape Garry.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
Aug. 11	2	30. 004	32. 0	32. 0	31. 3	0. 168	94. 8	N	18	1-4 ci.-st. & st.	0	0	....	Fair....	Surrounded by loose ice; water green.
	4	29. 995	34. 3	34. 3	33. 0	0. 175	89. 5	N	12	1-4 st......	0	0	....	Fair....	Do. do.
	6	29. 999	37. 5	37. 5	35. 0	0. 171	76. 2	NE	15	1-4 st......	0	0	....	Fair....	Do. do.
	8	29. 986	39. 2	39. 2	37. 0	0. 194	81. 6	NE	20	1-4 ci.-cum. 1-4 st......	0	0	....	Fair....	Do. do.
	10	29. 970	39. 0	39. 0	37. 0	0. 194	81. 6	NE	18	3-4 cum ...	0	0	....	Cloudy.	Do. do.
	Noon.	29. 964	39. 4	39. 4	37. 2	0. 196	81. 7	NE	16	2-4 cum ... 1-4 st......	0	0	....	Cloudy.	Do. do.
	2	29. 960	39. 0	39. 0	37. 0	0. 194	81. 6	NE	15	4-4 st......	0	0	....	Cloudy.	Do. do.
	4	29. 955	38. 6	38. 6	36. 8	0. 193	81. 4	NE	10	4-4 st......	0	0	....	Cloudy.	Do. do.
	6	29. 949	37. 5	37. 4	36. 2	0. 199	90. 3	NE	10	4-4 st......	0	0	....	Cloudy.	Do. do.
	8	29. 943	36. 5	36. 3	35. 3	0. 191	90. 0	NE	5	4-4 st......	0	0	....	Cloudy.	Off the pack; water green.
	10	29. 950	35. 4	35. 4	34. 6	0. 187	89. 9	NE	8	3-4 st......	0	0	33. 8	Cloudy.	Do. do.
	Mid't.	29. 948	33. 0	33. 0	32. 2	0. 168	89. 3	NE	5	1-4 ci.-st... 1-4 st......	0	0	34. 0	Cloudy.	Much heavy ice; water green.
Means..	......	29. 969	36. 78	....	....	0. 186	85. 66	....	....	....	....	....	....	....	

Off Prince Regent Inlet.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
Aug. 12	2	29. 945	33. 6	33. 5	32. 3	0. 177	98. 0	N	5	1-4 st......	0	0	34. 3	Fair....	Much heavy ice; water green.
	4	29. 952	33. 5	33. 3	32. 3	0. 176	98. 0	NE	6	1-4 st......	0	0	33. 5	Fair....	Do. do.
	6	29. 960	33. 9	33. 8	33. 0	0. 174	89. 5	N	8	1-4 ci.-st...	0	0	34. 0	Fair....	Do. do.
	8	29. 867	34. 0	34. 0	33. 0	0. 175	89. 5	N	10	1-4 ci.-st. & st.	0	0	34. 3	Fair....	Loose ice; water blue.
	10	29. 886	35. 0	35. 0	34. 0	0. 183	89. 8	N	14	2-4 ci.-st...	0	0	33. 0	Fair....	Do. do.
	Noon.	29. 890	37. 8	38. 0	36. 3	0. 186	81. 1	N	10	2-4 ci.-st...	0	0	33. 9	Fair....	Do. do.
	2	29. 885	38. 5	38. 8	36. 9	0. 207	90. 5	N	8	2-4 ci.-st...	0	0	34. 8	Fair....	Do. do.
	4	29. 890	39. 3	39. 1	37. 2	0. 194	81. 6	N	2	3-4 cu. & st.	0	0	36. 5	Cloudy.	Do. do.
	6	29. 880	39. 0	38. 6	36. 9	0. 207	90. 5	0	0	2-4 ci.-st...	0	0	32. 5	Fair....	Do. do.
	8	29. 869	38. 6	38. 8	36. 9	0. 207	90. 6	0	0	2-4 ci.-st...	0	0	33. 0	Fair....	Do. do.
	10	29. 860	34. 0	34. 0	33. 1	0. 175	89. 5	N	5	3-4 cum ... 1-4 st......	0	0	33. 1	Cloudy.	Do. do.
	Mid't.	29. 840	39. 0	39. 0	37. 9	0. 216	90. 7	0	0	4-4 st......	0	0	32. 5	Cloudy.	Do. do.
Means..	......	29. 894	36. 35	....	....	0. 190	89. 94	....	....	....	....	....	....	....	

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
Steaming out of Lancaster Sound.															
1873.	h.	In.	°	°	°								°		
Aug. 13	2	29.819	35.9	36.0	34.0	0.170	80.2	0	0	4-4 st......	0	0	32.5	Cloudy.	Little ice; water green.
	4	29.803	33.5	33.5	32.8	0.182	94.7	N	10	4-4 st......	0	0	32.5	Cloudy.	Do. do.
	6	29.765	34.0	34.0	32.3	0.162	79.7	NE	6	4-4 st......	0	0	32.0	Cloudy.	Do. do.
	8	29.728	34.5	34.5	33.5	0.179	89.7	NE	5	4-4 st......	0	0	31.8	Cloudy.	Do. do.
	10	29.710	35.5	34.3	33.0	0.176	89.5	E	10	4-4 st......	0	0	32.5	Cloudy.	Do. do.
	Noon.	29.658	34.0	34.0	33.0	0.175	89.5	E	12	4-4 st......	0	0	32.6	Cloudy.	No ice; water green.
	2	29.637	33.8	33.6	33.0	0.182	94.8	E	8	4-4 st......	0	0	33.4	Cloudy.	Do. do.
	4	29.610	34.2	34.2	33.5	0.186	94.7	E	5	4-4 st......	0	0	33.2	Cloudy.	Along land-floe; water green.
	6	29.578	33.9	33.9	33.0	0.175	89.5	E	8	3-4 cum ... 1-4 st......	0	0	32.8	Cloudy.	Do. do.
	8	29.568	34.9	34.8	34.1	0.183	89.7	E	6	3-4 ci.-st...	0	0	33.0	Cloudy.	Little ice; water green.
	10	29.530	34.8	34.6	32.9	0.169	84.5	E	10	3-4 ci.-st...	0	0	33.8	Cloudy.	Do. do.
	Mid't.	29.502	36.8	36.4	34.6	0.191	90.0	E	8	3-4 st	0	0	33.3	Cloudy.	Do. do.
Means..	......	29.659	34.57	.....	.....	0.177	88.87	....	....	....	....	.....	....	....	
Off Cape Hay.															
Aug. 14	2	29.495	34.0	34.0	33.0	0.175	89.5	E	7	3-4 cum....	0	0	33.5	Cloudy.	Little ice; water green.
	4	29.443	36.0	35.8	34.8	0.191	90.0	E	6	2-4 st......	0	0	34.5	Fair....	Do. do.
	6	29.400	37.3	37.2	36.3	0.199	90.3	E	12	2-4 st......	0	0	34.8	Fair....	Do. do.
	8	29.383	38.2	38.0	36.5	0.197	85.8	E	15	4-4 st......	0	0	35.3	Cloudy.	Do. do.
	10	29.394	39.0	38.8	37.0	0.195	82.0	E	22	4-4 st......	0	0	35.2	Cloudy.	Do. do.
	Noon.	29.386	38.3	38.3	37.2	0.207	90.5	E	10	4-4 st......	0	0	35.5	Cloudy.	No ice; water green.
	2	29.324	38.8	38.5	37.5	0.211	90.6	E	12	4-4 st......	0	0	36.2	Cloudy.	Little ice; water green.
	4	29.283	38.5	38.3	37.1	0.208	90.5	E	18	4-4 st......	0	0	36.0	Cloudy	Do. do.
	6	29.270	36.5	36.3	35.2	0.192	90.0	E	28	4-4 st......	0	0	35.4	Cloudy.	Do. do.
	8	29.293	36.8	36.9	36.2	0.198	90.3	SE	28	4-4 st......	0	0	34.8	Cloudy.	No ice; water green.
	10	29.291	36.0	36.0	35.5	0.201	95.0	SE	28	4-4 st......	0	0	35.5	Cloudy.	Do. do.
	Mid't.	29.290	37.1	37.3	36.8	0.214	95.2	S	25	4-4 st......	0	0	35.8	Cloudy.	Do. do.
Means..	......	29.354	37.21	.....	.....	0.199	89.97	....	....	....	....	.....	....	....	
Latitude, 73°.55′ N.; longitude, 73°.45′ W., at noon.															
Aug. 15	2	29.268	37.2	37.0	36.4	0.205	95.0	S	30	4-4 st......	0	0	35.5	Cloudy.	No ice; water green.
	4	29.275	37.5	37.5	37.0	0.214	95.2	S	30	4-4 st......	0	0	35.3	Cloudy.	Do. do.
	6	29.290	37.0	37.0	36.3	0.199	90.3	S	30	4-4 st......	0	0	36.0	Cloudy.	Do. do.
	8	29.310	37.3	37.3	36.8	0.213	95.1	S	28	4-4 st......	0	0	35.8	Cloudy.	Do. do.
	10	29.292	37.8	37.5	36.8	0.213	95.2	S	28	4-4 st......	0	0	35.6	Fog....	Do. do.
	Noon.	29.283	37.9	38.0	37.2	0.207	90.5	S	25	4-4 st......	0	0	35.2	Fog....	No ice; water blue.
	2	29.248	38.3	38.2	37.0	0.207	90.5	S	28	4-4 st......	0	0	34.8	Fog....	Do. do.
	4	29.210	38.0	37.8	36.5	0.195	89.0	S	30	4-4 st.....	0	0	34.5	Fog....	Do. do.
	6	29.167	37.4	37.5	36.3	0.200	90.4	S	28	4-4 st......	0	0	34.6	Fog....	Do. do.
	8	29.158	36.3	36.2	35.0	0.192	90.1	S	28	4-4 st......	0	0	35.0	Fog....	Do. do.
	10	29.148	35.1	35.1	34.8	0.198	95.0	S	30	4 4 st......	0	0	34.3	Fog....	Do. do.
	Mid't.	29.123	34.0	34.0	33.7	0.190	95.0	S	25	4-4 st......	0	0	34.5	Lt. snow	Do. do.
Means..	......	29.231	36.98	.....	.....	0.203	92.61	....	....	....	....	....	....	....	

Latitude, 73°.28′ N.; longitude, 68°.36′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
1873.	*h.*	*In.*	°	°	°								°		
Aug. 16	2	29. 112	34. 3	34. 2	33. 5	0. 185	94. 8	S	22	4-4 st	0	0	35. 0	Cloudy.	No ice; water blue.
	4	29. 115	34. 0	33. 8	33. 0	0. 175	89. 5	S	20	4-4 st	0	0	34. 7	Fog	Do. do.
	6	29. 116	34. 5	34. 4	33. 7	0. 189	94. 8	S	23	4-4 st	0	0	35. 2	Cloudy.	Do. do.
	8	20. 113	35. 3	35. 3	35. 0	0. 198	95. 0	S	20	4-4 st......	0	0	34. 8	Cloudy.	Do. do.
	10	29. 110	35. 8	35. 8	35. 3	0. 197	94. 9	S	22	4-4 st	0	0	35. 4	Cloudy.	Do. do.
	Noon.	29. 123	37. 0	36. 8	36. 5	0. 216	95. 5	S	18	4-4 st	0	0	36. 5	Cloudy.	No ice; water green.
	2	29. 135	35. 6	35. 5	35. 0	0. 197	94. 9	SE	16	1-4 cum	0	0	35. 5	Hazy...	Do. do.
										1-4 ci.-st...					
	4	29. 171	36. 9	36. 4	35. 2	0. 192	90. 1	SE	14	3-4 ci.-st...	0	0	35. 4	Cloudy.	No ice; water blue.
	6	29. 168	36. 6	36. 4	35. 5	0. 195	90. 1	E	12	3-4 ci.-st...	0	0	36. 2	Cloudy.	Do. do.
	8	29. 179	36. 0	35. 8	34. 8	0. 190	89. 9	SE	12	3-4 st	0	0	36. 2	Hazy...	Do. do.
	10	29. 188	35. 8	35. 8	35. 0	0. 191	90. 0	SE	18	2-4 ci.-st. & st.	0	0	36. 3	Fair....	Do. do.
	Mid't.	29. 197	35. 5	35. 3	34. 3	0. 184	89. 8	SE	15	2-4 ci.-st...	0	0	36. 2	Cloudy.	Do. do.
										1-4 st					
Means..	......	29. 144	35. 61	.....	.....	0. 192	92. 44	....	....	....	....	....	....	....	

Latitude, 73°.18′ N.; longitude, 68°.45′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Dry.	Wet.	Force of vapor.	Relative humidity.	Direction.	Velocity.	Clouds.	Upper.	Lower.	Temperature of sea.	Weather.	Remarks.
Aug. 17	2	29. 213	36. 0	35. 8	34. 6	0. 188	89. 9	E	10	4-4 st	0	0	36. 5	Cloudy.	No ice; water blue.
	4	29. 208	36. 1	36. 0	35. 1	0. 191	90. 0	E	15	4-4 st	0	0	36. 3	Cloudy.	Do. do.
	6	29. 170	35. 9	35. 9	35. 0	0. 191	90. 0	NE	12	4-4 st	0	0	36. 5	Cloudy.	Do. do.
	8	29. 143	36. 0	36. 0	35. 0	0. 191	90. 0	NE	12	4-4 st	0	0	35. 8	Cloudy.	Do. do.
	10	29. 121	34. 8	34. 8	34. 0	0. 183	89. 8	NE	15	4-4 st	0	0	36. 3	Rain ...	Do. do.
	Noon.	29. 105	34. 4	34. 2	34. 0	0. 195	99. 0	NE	18	4-4 st	0	0	36. 5	Lt. snow	Do. do.
	2	29. 115	34. 6	34. 6	34. 3	0. 198	98. 0	NE	15	4-4 st	0	0	36. 0	Rain ...	Do. do.
	4	29. 159	35. 9	35. 7	35. 1	0. 197	94. 9	NW	5	3-4 st......	0	0	35. 5	Cloudy.	Much ice; water blue.
	6	29. 190	36. 0	35. 9	35. 0	0. 191	90. 0	W	5	3-4 st	0	0	35. 1	Cloudy.	Little ice; water blue.
	8	29. 222	35. 0	35. 1	34. 6	0. 193	94. 7	0	0	2-4 ci.-st...	0	0	35. 0	Hazy...	No ice; water blue.
	10	29. 234	33. 5	33. 4	33. 0	0. 182	94. 6	S	10	2-4 cum....	0	0	36. 2	Cloudy.	Do. do.
										1-4 st					
	Mid't.	29. 228	35. 5	35. 5	34. 8	0. 190	89. 0	S	8	4-4 st	0	0	36. 8	Cloudy.	Do. do.
Means..	......	29. 176	35. 31	.....	.....	0. 191	92. 49	....	....	....	....	....	....	....	

Latitude, 71°.43′ N.; longitude, 69°.24′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Dry.	Wet.	Force of vapor.	Relative humidity.	Direction.	Velocity.	Clouds.	Upper.	Lower.	Temperature of sea.	Weather.	Remarks.
Aug. 18	2	29. 212	36. 0	36. 0	35. 0	0. 191	90. 0	SW	10	4-4 st......	0	0	37. 4	Cloudy.	No ice; water blue.
	4	29. 208	35. 8	35. 8	35. 0	0. 196	94. 8	SW	8	4-4 st......	0	0	37. 3	Cloudy.	Do. do.
	6	29. 213	34. 4	34. 4	33. 3	0. 175	89. 5	SW	10	3-4 st......	0	0	37. 0	Cloudy.	Do. do.
	8	29. 218	33. 0	33. 0	31. 7	0. 158	85. 0	SW	12	2-4 ci.-st ...	0	0	37. 5	Fair....	Do. do.
	10	29. 239	37. 5	37. 5	36. 6	0. 203	90. 4	SW	8	2-4 ci.-st ...	0	0	36. 0	Fair....	Do. do.
	Noon.	29. 272	40. 6	40. 8	39. 0	0. 225	91. 0	0	0	2-4 ci.-st ...	0	0	38. 8	Fair....	Do. do.
	2	29. 309	40. 5	40. 2	38. 2	0. 204	82. 1	0	0	1-4 st	0	0	38. 8	Fair....	Little ice; water blue.
	4	29. 342	39. 1	39. 0	37. 0	0. 194	81. 6	0	0	1-4 ci.-st. & st.	0	0	36. 7	Fair....	Off the pack; water blue.
	6	29. 378	36. 3	36. 1	34. 8	0. 190	89. 8	S	5	2-4 ci.-st. & st.	0	0	34. 5	Fair....	Loose ice; water blue.
	8	29. 397	35. 0	35. 0	33. 4	0. 185	94. 8	SE	10	3-4 cum....	0	0	32. 5	Cloudy.	Do. do.
	10	29. 415	32. 3	32. 3	31. 7	0. 170	95. 0	S	12	3-4 cum....	0	0	31. 3	Cloudy.	Little ice; water blue.
	Mid't.	29. 423	35. 0	35. 0	34. 1	0. 183	89. 8	S	15	3-4 cum....	0	0	32. 8	Cloudy.	Do. do.
Means..	......	29. 302	36. 29	.....	.....	0. 189	89. 48	....	....	....	....	....	....	....	

Latitude, 70°.40′ N.; longitude, 66°.50′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
1873.	h.	In.	°	°	°								°		
Aug. 19	2	29.447	34.5	34.6	33.7	0.183	89.8	S	18	1-4 st......	0	0	33.5	Fair....	Little ice; water blue.
	4	29.462	33.0	33.0	32.3	0.168	89.3	0	0	2-4 cum ... 1-4 st......	0	0	33.6	Cloudy.	Do. do.
	6	29.460	34.0	34.0	33.0	0.175	89.5	S	10	2-4 st	0	0	34.2	Fair....	Do. do.
	8	29.452	33.0	33.0	31.8	0.167	89.3	0	0	2-4 cum ... 1-4 st......	0	0	35.0	Cloudy.	Do. do.
	10	29.430	34.8	34.5	33.2	0.176	89.6	0	0	2-4 cum ... 1-4 st......	0	0	34.5	Cloudy.	Do. do.
	Noon.	29.413	33.0	33.0	32.3	0.169	89.4	0	0	4-4 st......	0	0	34.5	Fog	Loose ice; water blue.
	2	29.380	35.3	35.0	33.8	0.182	89.7	S	3	2-4 ci.-st ..	0	0	35.5	Fog	Do. do.
	4	29.363	36.3	36.0	35.0	0.191	90.0	0	0	2-4 cu. and ci.-cu. 1-4 st......	0	0	37.0	Cloudy.	Do. do.
	6	29.368	33.0	33.0	32.3	0.169	89.5	N	12	4-4 st......	0	0	34.5	Fog	Do. do.
	8	29.368	33.0	33.1	32.7	0.181	94.6	N	12	4-4 st......	0	0	34.6	Fog	Do. do.
	10	29.399	32.5	32.3	32.0	0.176	94.7	N	12	4 4 st......	0	0	34.0	Fog	Do. do.
	Mid't.	29.438	32.0	31.9	31.7	0.168	89.3	N	21	4-4 st......	0	0	33.8	Fog	Do. do.
Means..	......	29.415	33.70	.....	.....	0.175	90.39	....	....	....	....	....	....	....	

Latitude, 70°.08′ N.; longitude, 66°.54′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
Aug. 20	2	29.518	31.5	31.5	31.3	0.175	99.0	N	15	4-4 st......	0	0	33.2	Fog	Loose ice; water blue.
	4	29.600	32.0	32.0	31.6	0.169	94.9	N	8	4-4 st......	0	0	33.3	Fog	Do. do.
	6	29.661	32.4	32.3	31.8	0.175	94.5	0	0	3-4 st.....	0	0	34.0	Fog	Do. do.
	8	29.708	33.0	33.0	32.5	0.178	94.6	0	0	2-4 cum ... 1-4 st......	0	0	34.4	Cloudy.	Do. do.
	10	29.740	36.0	35.0	34.3	0.182	89.6	S	5	2-4 cu. and ci.-cu. 1-4 st......	0	0	35.3	Cloudy.	Do. do.
	Noon.	29.757	36.4	36.4	35.8	0.205	95.0	S	6	1-4ci.-cum., ci.-st. and st.	0	0	33.8	Fair....	Do. do.
	2	29.800	37.8	38.0	35.8	0.186	81.1	0	0	2-4 ci.-st. ..	0	0	34.8	Fair....	Much ice; water blue.
	4	29.834	35.9	35.7	34.5	0.184	89.9	0	0	3-4 ci.-st. & st.	0	0	35.0	Cloudy.	Loose ice; water blue.
	6	29.837	36.2	36.0	34.8	0.191	90.0	S	15	1-4 ci.-st. & st.	0	0	35.2	Fair....	Do. do.
	8	29.863	33.2	33.3	32.0	0.168	89.3	S	20	1-4 ci.-st. & st.	0	0	35.3	Fair....	Do. do.
	10	29.877	32.0	31.9	31.0	0.165	89.0	S	22	1-4 st......	0	0	35.2	Fair....	Do. do.
	Mid't.	29.858	30.4	30.5	30.0	0.161	94.7	S	18	1-4 st......	0	0	35.0	Fair....	Do. do.
Means..	......	29.754	33.90	.....	.....	0.178	91.80	....	....	....	....	....	....	....	

Latitude, 69°.10′ N.; longitude, 66°.′11 W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
Aug. 21	2	29.877	31.0	30.8	30.0	0.155	89.3	S	18	1-4 st......	0	0	32.3	Fair....	Loose ice; water blue.
	4	29.858	30.4	30.5	30.0	0.161	94.7	S	18	St..........	0	0	30.7	Clear...	Do. do.
	6	29.800	31.0	31.1	29.5	0.147	84.2	S	12	2-4 st......	0	0	31.0	Fair....	Do. do.
	8	29.700	32.0	32.0	31.3	0.162	89.6	S	15	3-4 st......	0	0	31.3	Cloudy.	Do. do.
	10	29.728	32.0	32.0	31.3	0.162	89.6	SE	18	1-4 ci.-cum. 1-4 st......	0	0	31.2	Fair....	No ice; water blue.
	Noon.	29.658	33.1	33.0	32.4	0.177	94.6	SE	18	3-4 st......	0	0	31.8	Cloudy.	Little ice; water blue.
	2	29.600	34.0	34.0	33.0	0.175	89.5	SE	18	3-4 st......	0	0	32.0	Cloudy.	Do. do.
	4	29.565	32.5	32.4	31.6	0.162	89.6	SE	21	3-4 st......	0	0	35.0	Cloudy.	Loose ice; water blue.
	6	29.538	31.3	31.2	31.0	0.173	98.0	SE	26	4-4 st......	0	0	33.4	Lt. snow	Do. do.
	8	29.500	31.7	31.6	31.5	0.177	98.0	SE	22	4-4 st......	0	0	34.5	Lt. snow	Do. do.
	10	29.449	31.2	31.0	30.7	0.162	94.8	SE	24	4-4 st......	0	0	34.0	Lt. snow	Do. do.
	Mid't.	29.465	31.7	31.6	31.1	0.168	94.9	SE	25	4-4 st......	0	0	33.9	Lt. snow	Do. do.
Means..	......	29.645	31.82	.....	.....	0.165	92.23	....	....	....	....	....	....	....	

Latitude, 69°.10′ N.; longitude, 66°.11′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
1873.	*h.*	*In.*	°	°	°								°		
Aug. 22	2	29. 380	32. 2	32. 2	31. 8	0. 170	95. 0	SE	28	4-4 st......	0	0	33. 6	Cloudy.	Loose ice; water blue.
	4	29. 349	32. 0	32. 0	31. 9	0. 171	95. 2	SE	30	4-4 st......	0	0	33. 0	Lt. snow	Do. do.
	6	29. 338	32. 8	32. 6	32. 3	0. 173	94. 1	SE	25	4-4 st......	0	0	33. 2	Lt. snow	Do. do.
	8	29. 330	32. 8	32. 6	32. 4	0. 180	96. 0	SE	20	4-4 st	0	0	33. 4	Lt. snow	Do. do.
	10	29. 340	32. 0	32. 0	31. 8	0. 175	98. 0	SE	24	4-4 st......	0	0	32. 0	Lt. snow	Do. do.
	Noon.	29. 367	32. 0	32. 0	31. 9	0. 176	98. 5	SE	18	4-4 st.....	0	0	31. 3	Lt. snow	Do. do.
	2	29. 383	32. 0	32. 0	31. 9	0. 176	98. 5	SE	12	4-4 st......	0	0	32. 0	Lt. snow	Do. do.
	4	29. 423	32. 4	32. 3	32. 0	0. 177	95. 0	SE	10	4-4 st......	0	0	32. 0	Cloudy.	Do. do.
	6	29. 460	31. 8	31. 7	31. 3	0. 169	95. 0	NE	15	4-4 st......	0	0	31. 4	Cloudy.	Little ice; water blue.
	8	29. 500	31. 4	31. 3	31. 0	0. 170	96. 0	N	10	4-4 st......	0	0	31. 3	Cloudy.	Loose ice; water blue.
	10	29. 547	31. 7	32. 0	31. 5	0. 169	94. 9	N	8	4-4 st......	0	0	31. 4	Cloudy.	Little ice; water blue.
	Mid't.	29. 585	31. 8	31. 9	30. 9	0. 161	89. 5	N	8	4-4 st......	0	0	31. 4	Cloudy.	Do. do.
Means..	......	29. 417	31. 91	.....	.....	0. 172	93. 47	....	....	....	.....	.....	....	....	

Latitude, 68°.58′ N.; longitude, 65°.48′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
Aug. 23	2	29. 640	31. 0	31. 0	30. 9	0. 173	99. 0	N	7	4-4 st......	0	0	31. 5	Cloudy.	Little ice; water blue.
	4	29. 682	30. 5	30. 7	30. 4	0. 165	99. 0	0	0	4-4 st......	0	0	31. 7	Lt. snow	Do. do.
	6	29. 711	31. 3	31. 2	30. 9	0. 162	95. 0	N	5	4-4 st......	0	0	32. 0	Lt. snow	Do. do.
	8	29. 753	32. 6	32. 4	32. 0	0. 176	94. 6	N	7	3-4 st......	0	0	31. 8	Cloudy.	Do. do.
	10	29. 779	33. 5	33. 3	33. 0	0. 183	94. 8	0	0	2-4 cu. and ci.-cu. 1-4 st......	0	0	32. 0	Cloudy.	Do. do.
	Noon.	29. 813	34. 0	33. 8	33. 2	0. 182	94. 9	0	0	3-4 cum ... 1-4 st......	0	0	32. 3	Cloudy.	Do. do.
	2	29. 852	34. 0	33. 8	33. 1	0. 180	90. 5	0	0	3-4 cum ... 1-4 st......	0	0	35. 0	Cloudy.	Loose ice; water blue.
	4	29. 899	34. 4	34. 0	33. 7	0. 187	96. 0	0	0	3-4 st......	0	0	34. 0	Cloudy.	Do. do.
	6	29. 938	33. 0	33. 0	32. 0	0. 168	89. 3	0	0	4-4 st......	0	0	32. 0	Cloudy.	Do. do.
	8	29. 957	32. 5	32. 3	32. 0	0. 180	95. 0	0	0	1-4 cu. and ci.-cu. 1-4 st.....	0	0	33. 2	Fair....	Do. do.
	10	29. 981	30. 8	31. 0	30. 6	0. 165	94. 7	0	0	1-4 cu. and ci.-cu. 1-4 st......	0	0	33. 0	Fair....	Do. do.
	Mid't.	30. 000	31. 8	31. 7	31. 0	0. 164	89. 9	SW	4	3-4 ci.-st...	0	0	31. 5	Fair....	Do. do.
Means..	......	29. 834	32. 45	.....	.....	0. 174	94. 39	....	....	....	.....	.....	....	....	

Latitude, 69°.14′ N.; longitude, 65°.39′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
Aug. 24	2	30. 008	31. 4	31. 3	31. 0	0. 172	96. 0	S	12	1-4 st......	0	0	32. 0	Fair....	Loose ice; water blue.
	4	30. 023	31. 0	31. 0	30. 9	0. 173	99. 0	S	15	1-4 st......	0	0	31. 4	Fair....	Do. do.
	6	30. 048	29. 3	29. 4	29. 0	0. 154	94. 5	S	12	1-4 st......	0	0	32. 3	Hazy...	Do. do.
	8	30. 067	33. 3	33. 0	32. 1	0. 168	89. 3	S	8	St..........	0	0	32. 5	Hazy...	Do. do.
	10	30. 064	35. 4	35. 0	33. 5	0. 173	84. 7	0	0	St..........	0	0	32. 3	Hazy...	Do. do.
	Noon.	30. 077	34. 4	34. 3	33. 2	0. 175	89. 5	S	12	1-4 ci. and ci.-cum. St.	0	0	33. 6	Fair....	Do. do.
	2	30. 085	35. 3	35. 2	34. 0	0. 183	89. 8	S	15	2-4 ci.-cum. & ci.-st.	0	0	32. 3	Fair....	Do. do.
	4	30. 103	33. 4	33. 3	32. 3	0. 169	89. 4	SE	12	3-4 cum ...	0	0	32. 0	Cloudy.	Do. do.
	6	30. 095	33. 0	32. 9	32. 0	0. 168	89. 2	E	14	2-4 cum ... 1-4 st......	0	0	31. 4	Cloudy.	Do. do.
	8	30. 073	32. 8	32. 8	32. 0	0. 167	89. 2	E	12	4-4 st......	0	0	32. 0	Cloudy.	Do. do.
	10	30. 040	32. 5	32. 5	32. 0	0. 175	94. 5	E	12	4-4 st......	0	0	32. 0	Cloudy.	Do. do.
	Mid't.	30. 010	32. 5	32. 5	32. 0	0. 175	94. 5	E	13	4-4 st......	0	0	31. 8	Cloudy.	Do. do.
Means..	......	30. 058	32. 86	.....	.....	0. 171	91. 63	....	....	....	.....	.....	....	....	

Latitude, 69°.06′ N.; longitude, 65°.09′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
1873.	*h.*	*In.*	°	°	°								°		
Aug. 25	2	29.980	32.2	32.2	32.0	0.180	98.0	E	15	2-4 st......	0	0	33.0	Cloudy.	Loose ice; water blue.
	4	29.973	32.0	32.0	31.8	0.179	97.0	S	15	4-4 st	0	0	32.7	Lt. rain.	Do. do.
	6	29.907	32.7	32.5	32.3	0.180	98.0	SW	16	4-4 st......	0	0	33.3	Lt. rain.	Do. do.
	8	29.868	33.1	33.3	33.0	0.186	97.0	SW	18	4-4 st......	0	0	32.6	Lt. rain.	Do. do.
	10	29.820	33.0	32.8	32.3	0.175	94.5	SW	12	4-4 st......	0	0	32.3	Lt. rain.	Little ice; water blue.
	Noon.	29.807	32.3	32.3	32.0	0.180	98.0	SW	15	4-4 st......	0	0	32.7	Cloudy.	Do. do.
	2	29.800	34.5	34.4	34.0	0.189	94.8	S	18	2-4 ci.-st...	0	0	32.5	Fair....	Do. do.
	4	29.788	34.0	34.0	33.4	0.182	94.7	S	15	2-4 ci.-st & st.	0	0	32.3	Fair....	Do. do.
	6	29.798	33.0	33.0	32.7	0.180	95.0	0	0	1-4 cum. & ci.-cum. 2-4 ci.-st. & st.	0	0	31.6	Cloudy.	Do. do.
	8	29.803	33.0	33.0	32.5	0.179	94.6	0	0	2-4 st......	0	0	31.3	Fair....	Among loose ice; water blue.
	10	29.822	33.2	33.2	33.0	0.188	99.0	0	0	2-4 st......	0	0	32.4	Fair....	Do. do.
	Mid't.	29.836	32.8	32.8	32.6	0.184	96.0	0	0	2-4 st......	0	0	32.3	Fair....	Do. do.
Means..	......	29.850	32.98	.....	.....	0.182	96.38	....	....	....	....	....	....	....	

Latitude, 69°.40′ N.; longitude, 65°.25′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
Aug. 26	2	29.850	32.9	32.9	32.7	0.185	96.0	0	0	2-4 st......	0	0	32.8	Fair....	Among loose ice; water blue.
	4	29.868	32.5	32.5	32.3	0.183	96.0	0	0	2-4 st......	0	0	33.1	Fair....	Do. do.
	6	29.883	32.5	32.4	32.2	0.182	96.0	0	0	3-4 st	0	0	32.8	Cloudy.	Do. do.
	8	29.885	32.3	32.3	32.0	0.181	95.0	0	0	4-4 st......	0	0	33.0	Cloudy.	Do. do.
	10	29.894	33.0	33.0	32.8	0.186	96.0	S	5	4-4 st......	0	0	32.2	Cloudy.	Do. do.
	Noon.	29.890	33.8	33.7	33.2	0.183	94.8	S	3	4-4 st......	0	0	31.3	Cloudy.	Do. do.
	2	29.875	36.0	36.0	35.0	0.191	90.0	SW	5	4-4 st......	0	0	31.7	Cloudy.	Do. do.
	4	29.872	34.5	34.5	34.0	0.189	94.8	SW	5	4-4 st......	0	0	32.0	Cloudy.	Do. do.
	6	29.850	33.2	33.2	33.0	0.189	96.0	SW	12	4-4 st......	0	0	31.9	Lt. rain.	Do. do.
	8	29.838	33.8	33.8	33.5	0.185	94.7	SW	15	4-4 st......	0	0	31.6	Lt. rain.	Do. do.
	10	29.800	34.0	34.0	33.8	0.195	98.0	SW	12	4-4 st	0	0	31.3	Cloudy.	Do. do.
	Mid't.	29.765	33.8	33.8	33.4	0.186	94.8	SW	12	4-4 st......	0	0	31.7	Cloudy.	Do. do.
Means..	......	29.856	33.52	.....	.....	0.186	95.17	....	....	....	....	....	....	....	

Latitude, 70°.00′ N.; longitude, 66°.18′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
Aug. 27	2	29.755	34.0	33.8	33.5	0.185	94.7	SW	15	4-4 st......	0	0	33.5	Cloudy.	Loose ice; water blue.
	4	29.768	33.5	33.4	33.2	0.186	96.0	SW	16	4-4 st......	0	0	33.0	Cloudy.	Do. do.
	6	29.680	33.0	33.0	32.8	0.187	96.0	SW	18	4-4 st......	0	0	32.8	Cloudy.	Do. do.
	8	29.643	33.2	33.0	32.8	0.187	96.0	SW	15	4-4 st......	0	0	33.3	Lt. rain.	Do. do.
	10	29.630	34.0	34.0	33.9	0.195	99.0	0	0	4-4 st......	0	0	32.5	Fog	Do. do.
	Noon.	29.612	34.8	34.8	34.5	0.190	95.0	N	10	4-4 st......	0	0	32.0	Fog	Do. do.
	2	29.615	35.0	35.0	34.7	0.196	95.1	N	8	4-4 st......	0	0	33.1	Fog	Do. do.
	4	29.608	33.1	33.0	32.8	0.186	97.0	N	12	4-4 st......	0	0	33.8	Fog	Do. do.
	6	29.600	33.0	33.0	32.5	0.179	94.6	N	10	4-4 st......	0	0	33.4	Fog	Do. do.
	8	29.600	32.4	32.4	32.0	0.175	94.5	NW	8	4-4 st......	0	0	32.3	Fog	Do. do.
	10	29.610	33.0	33.0	32.8	0.186	97.0	W	6	4-4 st......	0	0	33.0	Fog	Do. do.
	Mid't.	29.619	33.0	33.0	32.8	0.186	97.0	W	14	4-4 st......	0	0	33.5	Fog	Do. do.
Means..	......	29.645	33.50	.....	.....	0.186	95.99	....	....	....	....	....	....	....	

Latitude 70°.35′ N.; longitude, 66°.20′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer.		Force of vapor.	Relative humidity.	Wind.		Clouds.	Direction of clouds.		Temperature of sea.	Weather.	Remarks.
				Dry.	Wet.			Direction.	Velocity.		Upper.	Lower.			
1873.	*h.*	*In.*	°	°	°								°		
Aug. 28	2	29.628	33.2	33.1	32.9	0.186	97.0	W	18	4-4 st......	0	0	33.2	Fog	Loose ice; water blue.
	4	29.641	33.1	32.9	32.7	0.186	97.0	W	12	4-4 st......	0	0	33.0	Fog	Do. do.
	6	29.656	32.9	32.8	32.5	0.186	97.0	NW	16	4-4 st.....	0	0	32.9	Fog	Do. do.
	8	29.668	33.0	33.0	32.8	0.187	97.5	NW	18	4-4 st......	0	0	32.2	Fog	Do. do.
	10	29.680	32.3	32.3	32.0	0.187	97.5	NW	20	4-4 st.....	0	0	32.0	Fog	Much ice; water blue.
	Noon.	29.699	32.8	32.8	32.5	0.186	97.0	W	20	4-4 st......	0	0	31.3	Cloudy.	Do. do.
	2	29.718	33.0	33.0	32.4	0.179	94.6	W	15	4-4 st......	0	0	*	Lt. snow	Loose ice; water blue.
	4	29.737	32.2	32.2	32.0	0.180	96.0	W	8	4-4 st......	0	0	....	Cloudy.	Little ice; water blue.
	6	29.741	32.8	32.8	32.0	0.169	89.4	W	12	4-4 st......	0	0	....	Cloudy.	Do. do.
	8	29.732	32.2	32.2	32.0	0.187	97.5	W	15	4-4 st......	0	0	....	Cloudy.	Loose ice; water blue.
	10	29.741	32.8	32.8	32.2	0.176	94.6	W	12	4-4 st......	0	0	....	Fog	Do. do.
	Mid't.	29.752	33.0	33.0	32.8	0.187	89.9	W	18	4-4 st......	0	0	....	Fog	Do. do.
Means..	......	29.699	32.77	.....	.....	0.183	95.42	....	....	....	....	....	....	....	

Latitude, 71°.09′ N.; longitude, 66°.19′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Dry.	Wet.	Force of vapor.	Relative humidity.	Direction.	Velocity.	Clouds.	Upper.	Lower.	Temperature of sea.	Weather.	Remarks.
Aug. 29	2	29.753	32.5	32.5	32.3	0.180	97.0	0	0	4-4 st......	0	0	....	Fog	Loose ice; water blue.
	4	29.754	32.6	32.5	32.3	0.180	97.0	0	0	4-4 st......	0	0	....	Fog	Do. do.
	6	29.752	32.1	32.0	31.8	0.180	96.0	0	0	4-4 st......	0	0	....	Fog	Do. do.
	8	29.760	31.0	31.0	30.9	0.173	97.0	E	10	4-4 st......	0	0	....	Cloudy.	Do. do.
	10	29.778	31.0	31.0	30.2	0.155	89.3	0	0	4-4 st......	0	0	....	Cloudy.	Little ice; water blue.
	Noon.	29.758	30.0	20.0	29.4	0.154	94.5	E	5	4-4 st......	0	0	....	Hazy...	Loose ice; water blue.
	2	29.759	32.0	31.8	31.5	0.170	95.0	0	0	4-4 st......	0	0	....	Hazy...	Do. do.
	4	29.760	31.3	31.3	31.0	0.168	94.8	NE	5	4-4-st......	0	0	....	Hazy...	Do. do.
	6	29.745	31.2	31.2	31.0	0.168	94.8	N	8	4-4 st......	0	0	....	Fog	Do. do.
	8	29.728	31.2	31.0	30.9	0.173	97.0	NE	12	4-4 st......	0	0	....	Fog	Do. do.
	10	29.711	32.0	32.0	31.8	0.180	96.0	NE	12	4-4 st......	0	0	....	Hazy...	Do. do.
	Mid't.	29.690	32.0	32.0	31.8	0.180	96.0	NE	15	2-4 cum... 1-4 st......	0	0	....	Cloudy.	Do. do.
Means..	......	29.746	31.66	.....	.....	0.172	95.37	....	....	....	....	....	....	....	

Latitude, 71°.32′ N.; longitude, 66°.00′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Dry.	Wet.	Force of vapor.	Relative humidity.	Direction.	Velocity.	Clouds.	Upper.	Lower.	Temperature of sea.	Weather.	Remarks.
Aug. 30	2	29.693	32.5	32.4	32.1	0.180	97.0	NE	15	2-4 cum...	0	0	....	Fair....	Loose ice; water blue.
	4	29.697	32.5	32.4	32.1	0.180	97.0	NE	10	2-4 cum...	0	0	....	Fair....	Do. do.
	6	29.700	33.0	32.9	32.4	0.178	94.6	NE	12	2-4 cum...	0	0	....	Fair....	Do. do.
	8	29.709	33.2	33.0	32.5	0.179	94.6	NE	12	4-4 st......	0	0	....	Hazy...	Do. do.
	10	29.725	33.4	33.3	32.6	0.180	95.0	NE	15	2-4 cum... 1-4 st......	0	0	....	Cloudy.	Little ice; water blue.
	Noon.	29.728	33.5	33.5	33.0	0.182	94.7	N	18	2-4 ci.-cum., cum., & st.	0	0	....	Fair....	No ice; water blue.
	2	29.739	32.0	32.0	31.7	0.180	96.0	N	6	3-4 cum...	0	0	....	Cloudy.	Loose ice; water blue.
	4	29.758	32.0	32.0	31.6	0.180	96.0	NE	8	4-4 st......	0	0	....	Cloudy.	Do. do.
	6	29.783	33.5	33.5	33.0	0.182	94.7	0	0	2-4 st......	0	0	....	Fair....	Close pack; water blue.
	8	29.814	31.0	31.0	30.4	0.161	94.7	0	0	2-4 ci.-cum., and st. 1-4 st......	0	0	....	Cloudy.	Do. do.
	10	29.823	30.8	30.8	30.2	0.160	94.6	NE	5	2-4 cum... 1-4 st......	0	0	....	Cloudy.	Much ice; water blue.
	Mid't.	29.838	30.4	30.3	30.0	0.166	97.0	NE	8	2-4 st......	0	0	....	Fair....	No ice; water blue.
Means..	......	29.751	32.32	.....	.....	0.176	95.49	....	....	....	....	....	....	....	

* Thermometer broken.

Latitude, 71°.21′ N.; longitude, 61°.45′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
1873.	*h.*	*In.*	°	°	°								°		
Aug. 31	2	29.850	30.9	30.8	30.5	0.164	97.0	NE	5	2-4 st	0	0	....	Fair	Much ice; water blue.
	4	29.863	30.9	30.8	30.5	0.164	97.0	NE	6	2-4 st	0	0	....	Fair	Do. do.
	6	29.876	31.5	31.4	31.0	0.168	94.8	NE	3	2-4 st	0	0	....	Fair	Do. do.
	8	29.879	31.8	31.8	31.5	0.170	95.0	NE	10	1-4 st	0	0	....	Fair	Do. do.
	10	29.880	31.0	31.0	30.5	0.164	94.8	N	10	2-4 cum. & ci.-cum. 1-4 st	0	0	....	Cloudy	Do. do.
	Noon.	29.867	31.5	31.3	31.0	0.173	96.0	N	8	2-4 cum 1-4 st	0	0	...	Hazy	Little ice; water blue.
	2	29.873	31.4	31.2	31.0	0.167	94.7	NE	7	1-4 cum 1-4 st	0	0	....	Hazy	Do. do.
	4	29.883	32.0	32.0	31.8	0.180	96.5	NE	12	2-4 st	0	0	....	Hazy	No ice; water blue.
	6	29.882	31.8	31.8	31.6	0.176	97.0	E	10	4-4 st	0	0	....	Fog	Do. do.
	8	29.881	31.0	31.0	30.9	0.173	99.0	E	5	4-4 st	0	0	....	Fog	Do. do.
	10	29.880	32.0	32.0	31.9	0.180	99.5	E	6	4-4 st	0	0	....	Fog	Do. do.
	Mid't.	29.871	32.1	32.0	31.9	0.180	99.5	0	0	3-4 st	0	0	....	Cloudy	Met with one iceberg; last ice seen.
Means..	......	29.874	31.49	......	......	0.172	96.73	....	....	....	....	....	....	....	

Latitude, 67°.7′.20″ N.; longitude, 57°.30′.00″ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
Sept. 1	2	29.866	32.4	32.3	31.9	0.196	94.6	0	0	2-4 st	0	0	....	Fair	Water blue.
	4	29.859	32.4	32.3	32.0	0.197	94.8	0	0	3-4 st	0	0	....	Cloudy	Do.
	6	29.852	32.8	32.6	32.0	0.175	94.5	E	10	4-4 st	0	0	....	Cloudy	Do.
	8	29.848	33.5	33.5	32.6	0.171	89.4	E	15	4-4 st	0	0	....	Cloudy	Do.
	10	29.825	34.0	34.0	33.0	0.175	89.5	NE	8	4-4 st	0	0	....	Cloudy	Do.
	Noon.	29.813	34.9	35.0	34.0	0.183	89.8	NE	15	4-4 st	0	0	....	Cloudy	Do.
	2	29.800	35.8	35.8	34.7	0.190	90.0	NE	18	4-4 st	0	0	....	Cloudy	Do.
	4	29.805	36.2	36.1	35.2	0.192	90.0	N	25	2-4 st	0	0	....	Fair	Do.
	6	29.788	36.8	37.0	35.7	0.198	90.2	N	22	2-4 cum	S	S	....	Fair	Do.
	8	29.769	36.6	36.5	36.0	0.205	95.0	N	18	1-4 cum 1-4 st	S	S	....	Fair	Do.
	10	29.762	36.6	37.0	36.5	0.210	95.1	N	20	2-4 st	0	SW	....	Fair	Do.
	Mid't.	29.738	36.5	36.9	36.3	0.208	95.0	N	21	2-4 ci.-st	0	0	....	Fair	Do.
Means..	......	29.816	34.87	......	......	0.192	92.32	....	....	....	....	....	....	....	

Latitude, 67°.7′.20″ N.; longitude, 57°.30′.00″ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
Sept. 2	2	29.750	34.5	34.6	34.1	0.189	94.8	N	18	3-4 cum	N	S	....	Cloudy	
	4	29.763	34.5	34.6	34.1	0.189	94.8	N	22	3-4 cum	N	S	....	Cloudy	
	6	29.678	32.5	32.3	31.8	0.175	94.5	N	20	3-4 cum	0	0	....	Cloudy	
	8	29.659	35.6	35.8	35.0	0.193	94.6	N	25	1-4 cum 2-4 st	SW	SW	....	Cloudy	
	10	29.653	38.2	38.2	37.0	0.207	90.5	N	18	1-4 cum 2-4 st	S	S	....	Cloudy	
	Noon.	29.637	38.3	38.5	37.0	0.201	86.0	N	22	2-4 cum 1-4 st	0	0	....	Cloudy	
	2	29.619	38.7	38.8	37.8	0.215	90.6	N	20	4-4 st	0	0	....	Cloudy	
	4	29.610	38.8	38.9	37.9	0.216	90.7	N	22	4-4 st	0	0	....	Lt. rain	
	6	29.627	38.0	38.1	37.3	0.208	90.6	N	12	4-4 st	0	0	....	Lt. rain	
	8	29.625	38.3	38.0	37.7	0.225	95.4	N	18	4-4 st	0	0	....	Lt. rain	
	10	29.634	39.3	39.0	38.7	0.230	96.0	S	25	4-4 st	0	0	....	Cloudy	
	Mid't.	29.651	40.0	40.3	39.7	0.241	95.5	S	22	4-4 st	0	0	....	Cloudy	
Means..	......	29.659	37.22	......	......	0.208	92.83	....	....	....	....	....	....	....	

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer.		Force of vapor.	Relative humidity.	Wind.		Clouds.	Direction of clouds.		Temperature of sea.	Weather.	Remarks.
				Dry.	Wet.			Direction.	Velocity.		Upper.	Lower.			
Latitude, 65°.10′ N.; longitude, 56°.30′ W., at noon.															
1873.	h.	In.	°	°	°								°		
Sept. 3	2	29.670	39.5	39.5	39.0	0.232	95.4	S	25	4-4 st......	0	0	....	Cloudy.	
	4	29.692	39.0	39.3	39.0	0.234	95.7	S	25	4-4 st......	0	0	....	Cloudy.	
	6	29.732	39.3	39.1	38.9	0.236	97.8	S	20	4-4 st......	0	0	....	Cloudy	
	8	29.755	39.0	39.0	38.9	0.236	97.7	SE	18	1-4 cum ... 2-4 st......	SW	0	....	Cloudy.	
	10	29.782	38.5	38.8	38.0	0.216	90.7	SE	20	4-4 st......	0	0	....	Cloudy.	
	Noon.	29.809	39.7	39.9	39.0	0.225	91.0	SE	18	4-4 st......	0	0	....	Cloudy.	
	2	29.850	39.8	39.6	38.6	0.224	90.8	SE	20	4-4 st......	0	0	....	Cloudy.	
	4	29.892	40.3	40.3	39.6	0.226	91.1	SE	20	1-4 cum. & ci.-cum. 3-4 st......	0	0	....	Cloudy.	
	6	29.913	39.0	39.0	38.0	0.216	90.7	SE	15	3-4 st......	0	0	....	Cloudy.	
	8	29.930	39.3	39.3	38.5	0.218	90.9	SE	5	1-4 cum. & ci.-cum. 1-4 st......	0	0	....	Fair....	
	10	29.920	40.9	41.0	39.0	0.212	82.4	SE	2	3-4 st......	0	0	....	Cloudy.	
	Mid't.	29.901	41.0	41.1	39.2	0.213	82.5	SE	8	2-4 ci.-st...	0	0	....	Fair....	
Means..	......	29.821	39.61	.....	.....	0.224	91.39	....	....	....	.....	.....	....	....	
Latitude, 63°.12′ N.; longitude, 55°.50′ W., at noon.															
Sept. 4	2	.....	.....	.....	.....	.....	......	....	....	....	.....	.....	....	....	
	4	29.800	41.7	41.6	40.7	0.244	91.4	N	8	2-4 cum ... 1-4 st......	0	0	....	Cloudy.	
	6	29.741	41.5	41.7	41.0	0.246	93.0	N	11	3-4 st......	0	0	....	Cloudy.	
	8	29.687	41.9	42.0	41.1	0.243	91.2	N	14	2-4 cum ... 1-4 st......	0	0	....	Cloudy.	
	10	29.618	42.0	42.0	41.0	0.244	91.4	NE	18	4-4 st	0	0	....	Cloudy.	
	Noon.	29.508	41.8	41.8	41.0	0.245	91.9	NE	20	4-4 st......	0	0	....	Cloudy.	
	2	29.442	42.5	42.5	41.6	0.251	91.7	NE	20	4-4 st......	0	0	....	Cloudy.	
	4	29.376	41.0	41.0	40.9	0.256	95.5	NE	21	4-4 st......	0	0	....	Lt.rain.	
	6	29.377	41.0	41.0	40.9	0.246	95.5	NE	18	4-4 st......	0	0	....	Lt.rain.	
	8	29.339	45.3	45.2	44.9	0.294	96.5	E	18	4-4 st......	0	0	....	Rain ...	
	10	29.305	44.6	44.3	43.8	0.283	95.8	E	20	4-4 st......	0	0	....	Lt.rain.	
	Mid't.	29.243	43.9	43.7	43.4	0.274	95.6	SE	25	4-4 st......	0	0	....	Cloudy.	
Means..	......	29.404	42.47	.....	.....	0.257	93.59	....	....	....	.....	.....	....	....	
Latitude, 61°.39′ N.; longitude, 54°.40′ W., at noon.															
Sept. 5	2	29.350	43.0	42.9	42.0	0.255	91.7	E	20	4-4 st......	0	0	....	Cloudy.	
	4	29.487	41.2	41.4	40.6	0.237	91.3	NE	20	4-4 st......	0	0	....	Cloudy.	
	6	29.642	40.8	40.8	39.1	0.213	82.4	N	28	4-4 st......	0	0	....	Cloudy.	
	8	29.650	41.0	41.1	40.6	0.255	95.6	N	24	4-4 st......	0	0	....	Cloudy.	
	10	29.735	41.5	41.5	40.8	0.255	95.7	NW	18	3-4 cum ... 1-4 st......	0	0	....	Cloudy.	
	Noon.	29.780	41.8	42.0	41.0	0.244	91.4	NW	12	1-4 cum ... 3-4 st......	0	0	....	Cloudy.	
	2	29.832	42.4	42.0	41.6	0.260	95.7	W	6	3-4 cum ... 1-4 st......	0	0	....	Cloudy.	
	4	29.882	42.5	42.3	42.0	0.264	96.0	W	10	4-4 st......	0	0	....	Cloudy.	
	6	29.917	41.8	42.0	40.9	0.256	97.5	0	0	2-4 cum ... 1-4 st......	0	0	....	Cloudy.	
	8	29.958	42.7	42.5	41.9	0.259	95.7	0	0	3-4 ci.-cum.	0	E	....	Cloudy.	
	10	29.982	42.2	42.0	41.5	0.256	95.6	S	2	2-4 ci.-st...	0	0	....	Lt.rain.	
	Mid't.	29.998	42.1	42.2	41.6	0.257	95.7	0	0	1-4 cum. & ci.-cum. 1-4 st. and ci.-st.	0	0	....	Fair....	
Means..	......	29.768	41.92	.....	.....	0.251	93.69	....	....	....	.....	.....	....	....	

Latitude, 58°.42′ N.; longitude, 51°.00′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
1873.	h.	In.	°	°	°								°		
Sept. 6	2	29.987	42.0	41.8	41.0	0.246	91.5	0	0	1-4 cum ... 2-4 st......	0	0	....	Cloudy.	
	4	29.964	42.4	42.4	41.7	0.262	95.7	S	5	4-4 st.....	0	0	....	Cloudy.	
	6	29.948	42.8	43.0	41.0	0.231	83.3	S	6	1-4 cum. & ci.-cum. 1-4 st......	0	0	....	Fair ...	
	8	29.937	43.5	43.5	41.7	0.239	83.5	SE	8	1-4 cum. & ci.-cum. 1-4 st. & ci.-st.	W	0	...	Fair ...	
	10	29.923	45.8	45.5	43.0	0.245	80.3	SE	5	1-4 cum ... 1-4 st......	W	0	....	Fair ...	
	Noon.	29.900	47.0	46.8	43.5	0.240	76.8	E	8	1-4 ci.-cum. 1-4 st......	0	0	....	Fair ...	
	2	29.848	46.2	46.0	43.6	0.244	80.6	E	5	1-4 cum ... 1-4st. & ci.-st.	0	0	....	Fair ..	
	4	29.780	45.8	45.8	43.7	0.260	84.2	E	7	2-4 cum .... 1-4 st......	0	0	....	Cloudy.	
	6	29.737	44.8	44.5	42.8	0.253	85.0	E	15	2-4 cum .... 1-4 st......	NW	0	....	Cloudy.	
	8	29.680	45.0	45.0	42.6	0.240	80.1	E	20	3-4 st	0	0	....	Cloudy	
	10	29.613	44.0	44.1	43.2	0.264	91.8	E	22	4-4 st......	0	0	....	Rain ...	
	Mid't.	29.519	44.5	44.3	44.0	0.284	97.5	E	25	4-4 st......	0	0	....	Cloudy	
Means..	......	29.819	44.48	.....	.....	0.251	85.86	...	....	....	....	.....	....	....	

Latitude, 58°.30′ N.; longitude, 48°.50′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Dry.	Wet.	Force of vapor.	Relative humidity.	Direction.	Velocity.	Clouds.	Upper.	Lower.	Temperature of sea.	Weather.	Remarks.
Sept. 7	2	29.428	44.3	44.4	44.0	0.283	96.5	E	25	4-4 st......	0	0	....	Rain ...	
	4	29.345	45.2	45.2	44.8	0.294	97.0	E	20	4-4 st......	0	0	....	Rain ...	
	6	29.296	46.8	46.8	46.1	0.302	96.0	E	23	4-4 st......	0	0	....	Rain ...	
	8	29.260	47.0	47.0	46.9	0.320	97.5	E	23	4-4 st......	0	0	....	Rain ...	
	10	29.254	47.0	47.0	46.8	0.310	97.0	0	0	4-4 st......	0	0	....	Fog	
	Noon.	29.223	46.9	47.0	46.8	0.310	97.0	0	0	4-4 st......	0	0	....	Rain ...	
	2	29.213	46.5	46.4	46.0	0.305	96.5	0	0	4-4 st......	0	0	....	Rain ...	
	4	29.228	46.3	46.3	46.0	0.306	96.5	NE	10	4-4 st......	0	0	....	Rain ...	
	6	29.240	47.0	46.8	45.6	0.287	92.2	NE	15	4-4 st......	0	0	....	Cloudy.	
	8	29.320	46.5	46.3	45.5	0.288	92.6	NE	22	4-4 st......	0	0	....	Lt. rain.	
	10	29.410	46.3	46.4	45.5	0.288	92.6	NE	21	4-4 st......	0	0	....	Rain ...	
	Mid't.	29.465	45.0	45.0	44.5	0.287	95.9	NE	20	3-4 st......	0	0	....	Cloudy.	
Means..	......	29.307	46.23	.....	.....	0.306	95.61	...	....	....	....	....	....	....	

Latitude, 58°.22′ N.; longitude, 44°.16′ W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Dry.	Wet.	Force of vapor.	Relative humidity.	Direction.	Velocity.	Clouds.	Upper.	Lower.	Temperature of sea.	Weather.	Remarks.
Sept. 8	2	29.486	45.0	45.0	44.6	0.293	96.0	NE	20	4-4 st......	0	0	....	Cloudy.	
	4	29.451	44.8	44.6	44.0	0.281	95.8	N	18	4-4 st......	0	0	....	Cloudy.	
	6	29.502	44.5	44.6	44.1	0.283	95.9	N	16	4-4 st......	0	0	....	Cloudy.	
	8	29.567	44.2	44.0	43.5	0.277	95.8	N	21	4-4 st......	0	0	....	Lt. rain.	
	10	29.604	44.0	44.0	43.1	0.265	91.9	N	18	4-4 st......	0	0	....	Cloudy.	
	Noon.	29.632	44.8	44.8	43.0	0.251	84.0	N	23	3-4 cum ... 1-4 st......	0	0	....	Lt. rain.	
	2	29.637	44.5	44.2	43.6	0.277	95.8	N	19	4-4 st......	0	0	....	Cloudy.	
	4	29.653	44.3	44.3	43.0	0.262	91.6	N	22	4-4 st......	0	0	....	Cloudy.	
	6	29.668	44.5	44.5	43.4	0.263	91.7	N	15	4-4 st......	0	0	....	Cloudy.	
	8	29.681	44.5	44.5	43.7	0.265	91.9	N	18	4-4 st......	0	0	....	Cloudy	
	10	29.708	44.8	44.7	43.8	0.266	92.1	N	15	3-4 st	0	0	....	Lt. rain.	
	Mid't.	......	.....	.....	.....	.....	.....	...	....	....	.....	.....	....	....	
Means..	......	29.599	44.54	.....	.....	0.271	92.86	...	....	....	.....	.....	....	....	

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
Latitude, 58°.40′ N.; longitude, 39°.20′ W., at noon.															
1873.	h.	In.	°	°	°								°		
Sept. 9	2	29.680	44.5	44.3	43.5	0.267	92.3	N	18	4-4 st......	0	0	....	Cloudy.	
	4	29.646	44.2	44.3	43.6	0.267	92.3	N	23	3-4 st......	0	0	....	Cloudy.	
	6	29.620	44.8	44.5	43.8	0.268	92.4	N	25	4-4 st......	0	0	....	Cloudy.	
	8	29.608	45.0	45.0	44.8	0.298	98.0	NW	22	4-4 st......	0	0	....	Lt. rain.	
	10	29.582	44.3	44.3	43.1	0.261	91.6	NW	18	4-4 st......	0	0	....	Cloudy.	
	Noon.	29.546	44.8	44.7	44.0	0.282	96.0	W	15	4-4 st......	0	0	....	Cloudy.	
	2	29.492	45.0	45.0	43.8	0.275	92.0	NW	22	4-4 st......	0	0	....	Lt. rain.	
	4	29.423	45.0	45.0	44.6	0.287	95.9	NW	25	4-4 st......	0	0	....	Lt. rain.	
	6	29.368	47.0	47.0	46.8	0.320	97.5	NW	18	4-4 st......	0	0	....	Lt. rain.	
	8	29.340	47.8	48.0	47.6	0.325	96.2	NW	16	4-4 st......	0	0	....	Lt. rain.	
	10	29.324	48.3	48.2	48.0	0.334	97.0	NW	15	4-4 st......	0	0	....	Lt. rain.	
	Mid't.	29.360	48.5	48.4	48.0	0.335	96.5	NE	20	3-4 st......	0	0	....	Cloudy.	
Means..	......	29.549	45.77	.....	.....	0.299	94.81	....	....	....	....	....	....	....	
Latitude, 58°.50′ N.; longitude, 35°.00′ W., at noon.															
Sept. 10	2	29.365	48.6	48.6	48.4	0.333	96.5	NE	18	4-4 st......	0	0	....	Fog	
	4	29.383	49.3	49.3	49.0	0.346	96.0	NE	15	4-4 st......	0	0	....	Cloudy.	
	6	29.417	49.0	49.0	48.8	0.347	96.0	NE	18	4-4 st......	0	0	....	Fog	
	8	29.478	48.0	48.0	47.8	0.334	96.5	NE	10	4-4 st......	0	0	....	Lt. rain.	
	10	29.507	48.0	48.0	47.8	0.334	96.5.	0	0	4-4 st......	0	0	....	Lt. rain.	
	Noon.	29.542	52.0	52.0	51.0	0.361	93.0	NE	6	1-4 cum. & ci.-cum.	0	0	....	Fair....	
										1-4 st......					
	2	29.552	52.0	52.0	51.2	0.362	93.1	NE	8	1-4 ci.-st...	0	0	....	Fair....	
										1-4 st......					
	4	29.588	2.4	52.4	51.2	0.364	93.1	NE	12	1-4 ci.-st. & st.	0	0	....		
	6	29.617	51.0	51.0	50.0	0.348	92.9	NE	15	1-4 ci. and ci.-cum.	0	0	....	Fair....	
										1-4 st......				Fair....	
	8	29.634	51.2	51.2	50.3	0.349	93.0	NE	10	1-4 cum....	0	0	....		
										1-4 st......					
	10	29.663	51.0	51.0	50.7	0.367	96.0	NE	10	1-4 ci.-cum.	0	SW	....	Fair....	
										1-4 ci.-st...					
	Mid't.	29.660	51.0	51.0	50.2	0.349	92.8	E	8	2-4 ci.-st...	0	0	....	Fair....	
Means..	......	29.534	50.29	.....	.....	0.349	94.62	....	....	....	....	....	...	....	
Latitude, 58°.13′.00″ N.; longitude, 31°.58′.55″ W., at noon.															
Sept. 11	2	29.640	51.0	51.0	49.9	0.348	92.8	E	5	1-4 cum. & ci.-cum.	0	0	....	r....	
										1-4 st......					
	4	29.658	50.4	50.4	49.7	0.355	96.9	E	10	Ci.-cum ...	0	0	....	Clear...	
										Ci.-st......					
	6	29.655	50.8	50.8	49.7	0.356	97.1	E	8	Ci..........	0	0	....	Fair....	
										1-4 st......					
	8	29.674	51.4	51.1	49.8	0.347	92.7	E	9	St..........	0	0	....	Clear...	
	10	29.683	51.8	51.6	50.0	0.341	89.5	NE	10	Ci.-st. & st.	0	0	....	Clear...	
	Noon.	29.695	52.2	51.9	48.8	0.321	85.9	NE	8	St..........	0	0	....	Clear...	
	2	29.708	52.6	52.4	50.3	0.334	86.1	NE	10	Ci.-st......	0	0	....	Clear...	
	4	29.723	53.3	53.2	51.0	0.348	86.4	NE	10	St..........	0	0	....	Clear...	
	6	29.754	51.3	51.0	48.5	0.310	82.4	NE	12	St..........	0	SW	....	Clear...	
	8	29.779	51.0	50.8	49.0	0.322	86.1	NE	10	1-4 st......	0	SW	....	Fair....	
	10	29.809	50.0	50.2	48.2	0.310	85.7	N	10	1-4 st......	0	0	....	Fair....	
	Mid't.	29.830	50.2	50.5	48.9	0.328	89.3	N	12	1-4 ci.-cum. and st.	0	0	....	Fair....	
Means..	......	29.717	51.33	.....	.....	0.335	89.24	....	....	....	....	....	....	....	

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer.		Force of vapor.	Relative humidity.	Wind.		Clouds.	Direction of clouds.		Temperature of sea.	Weather.	Remarks.
				Dry.	Wet.			Direction.	Velocity.		Upper.	Lower.			
Latitude, 58°.06′ N.; longitude, 29°.23′ W., at noon.															
1873.	h.	In.	°	°	°								°		
Sept. 12	2	29.844	50.0	49.9	48.0	0.309	85.6	N	10	1-4 cu. & st.	0	0	....	Fair....	
	4	29.858	50.0	50.0	47.4	0.290	81.9	N	12	Cum	0	0	....	Clear...	
	6	29.880	50.8	50.8	48.0	0.296	79.0	N	15	Ci.-cu. & cu.	0	0	....	Clear...	
	8	29.903	51.3	51.3	48.5	0.308	79.3	NW	10	1-4 ci-cum .	0	0	....	Fair....	
	10	29.923	52.7	52.5	49.0	0.302	76.3	NW	8	Ci.-cum ...	0	0	....	Clear...	
										St.........			....	Fair....	
	Noon.	29.942	53.8	54.0	50.0	0.308	73.8	W	3	1-4 cum ..	0	0	....	Fair....	
	2	29.910	53.0	53.0	49.1	0.295	73.3	W	6	1-4 cum ...	0	0	....	Fair....	
	4	29.922	52.8	53.0	49.8	0.320	79.8	W	12	2-4 ci.-cum .	0	0	....	Fair ...	
	6	29.914	50.9	50.9	47.2	0.270	73.2	W	10	1-4 ci.-cum. and st.	0	0	....	Fair....	
	8	29.895	50.0	49.8	48.0	0.309	85.6	W	14	2-4 st.......	0	0	....	Fair....	
	10	29.869	52.0	52.0	50.5	0.349	89.6	S	16	2-4 ci.-cum .	0	0	....	Fair....	
	Mid't.	29.842	52.0	52.2	49.8	0.329	83.0	SW	20	2-4 ci.-cum. and ci.-st.	0	0	....	Fair....	
Means..	......	29.892	51.57	.....	.....	0.307	80.03	....	....	....	....	....	....	....	
Latitude, 58°.20′ N.; longitude, 25°.00′ W., at noon.															
Sept. 13	2	29.808	52.0	52.1	49.8	0.329	83.0	SW	23	2-4 cum ... 1-4 ci.-st. & st.	0	0	....	Cloudy .	
	4	29.764	52.2	52.0	49.7	0.329	83.0	SW	20	2-4 cum ... 1-4 st......	0	0	....	Cloudy .	
	6	29.732	52.0	52.0	49.8	0.329	83.0	SW	25	2-4 cum ... 1-4 st......	0	0	....	Cloudy .	
	8	29.687	52.3	52.4	50.3	0.328	82.9	SW	20	1-4 cum ... 2-4 st......	0	0	....	Cloudy .	
	10	29.652	53.3	53.2	50.8	0.348	86.4	SW	22	2-4 cum ... 1-4 st......	0	0	....	Cloudy .	
	Noon.	29.628	53.0	52.8	51.6	0.373	93.1	SW	25	4-4 st......	0	0	....	Cloudy .	
	2	29.580	52.8	53.0	50.8	0.349	86.5	S	25	4-4 st......	0	0	....	Cloudy	
	4	29.518	52.6	52.5	50.0	0.328	82.9	S	25	4-4 st......	0	0	....	Cloudy .	
	6	29.473	52.5	52.5	51.3	0.362	93.0	S	28	4-4 st......	0	0	....	Cloudy .	
	8	29.410	52.1	52.4	51.0	0.353	89.6	S	30	4-4 st......	0	0	....	Cloudy .	
	10	29.380	52.2	52.5	51.2	0.354	89.7	S	30	4-4 st......	0	0	....	Cloudy .	
	Mid't.	29.341	53.0	53.0	51.8	0.374	93.2	S	35	4-4 st......	0	0	....	Cloudy .	
Means..	......	29.581	52.50	.....	.....	0.346	87.19	....	....	....	....	....	....	....	
Latitude, 59°.50′ N.; longitude, 18°.24′ W., at noon.															
Sept. 14	2	29.313	51.3	51.2	50.6	0.361	96.4	S	30	4-4 st......	0	0	....	Cloudy .	
	4	29.283	51.4	51.2	50.8	0.363	96.7	S	35	4-4 st......	0	0	....	Cloudy .	
	6	29.300	51.2	51.0	50.5	0.361	96.4	SE	30	4-4 st......	0	0	....	Cloudy .	
	8	29.317	51.2	51.2	51.0	0.371	97.5	SE	25	4-4 st......	0	0	....	Cloudy .	
	10	29.355	52.0	52.0	51.3	0.363	93.2	SE	25	1-4 cum. & ci.-cum. 1-4 st. and ci.-st.	0	0	....	Fair....	
	Noon.	29.403	52.8	52.8	52.0	0.376	93.4	SE	18	Ci.-cu. & cu.	0	0	....	Clear...	
	2	29.436	54.0	54.3	53.9	0.412	96.9	E	15	1-4 ci. and ci.-st.	0	0	....	Fair....	
	4	29.480	54.0	54.0	53.8	0.416	97.5	E	18	1-4 cu. & st.	0	0	....	Fair....	
	6	29.553	53.0	53.2	52.9	0.401	98.0	E	20	1-4 cu. & st.	0	0	....	Fair....	
	8	29.580	53.5	53.8	53.4	0.398	97.0	E	14	1-4 st	0	0	....	Fair....	
	10	29.612	53.4	53.6	53.2	0.397	96.9	E	12	2-4 cu. & st.	0	0	....	Fair....	
	Mid't.	29.641	53.0	53.1	52.8	0.401	98.0	E	6	1-4 st	0	0	....	Fair....	
Means..	......	29.439	52.57	.....	.....	0.385	96.49	....	....	....	....	....	....	....	

Latitude, 59°.17'.00" N.; longitude, 17°.39'.55" W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Psychrometer. Dry.	Psychrometer. Wet.	Force of vapor.	Relative humidity.	Wind. Direction.	Wind. Velocity.	Clouds.	Direction of clouds. Upper.	Direction of clouds. Lower.	Temperature of sea.	Weather.	Remarks.
1873.	*h.*	*In.*	°	°	°								°		
Sept. 15	2	29. 648	52. 8	53. 0	52. 6	0. 395	96. 9	E	5	St.	0	0	....	Clear...	
	4	29. 682	52. 0	52. 3	51. 4	0. 363	93. 5	E	8	1-4 cu. & st.	0	0	....	Fair....	
	6	29. 697	52. 8	52. 7	52. 0	0. 383	96. 6	E	6	1-4 ci.-cum. and st.	0	0	....	Fair....	
	8	29. 716	51. 3	51. 4	51. 0	0. 367	96. 5	E	5	2-4 cum ...	0	0	....	Fair....	
	10	29. 715	52. 2	52. 2	51. 6	0. 370	96. 5	0	0	2-4 cum ... 1-4 st......	0	0	....	Cloudy.	
	Noon.	29. 693	54. 8	54. 7	54. 0	0. 411	96. 7	S	6	2-4 cu. & st.	0	0	....	Fair....	
	2	29. 679	53. 4	53. 2	53. 0	0. 402	98. 0	S	5	1-4 ci. and ci.-cum. 1-4 st......	0	0	....	Fair....	
	4	29. 675	52. 3	52. 4	52. 0	0. 383	96. 9	S	5	1-4 ci-cum . 1-4 st......	0	0	....	Fair....	
	6	29. 658	51. 8	51. 7	51. 5	0. 373	96. 9	S	8	2-4 st......	0	0	....	Fair....	
	8	29. 651	51. 8	51. 9	51. 0	0. 361	93. 0	S	8	2-4 st......	0	0	....	Fair....	
	10	29. 618	51. 8	52. 0	51. 5	0. 375	96. 5	SE	10	3-4 cu. & st.	0	0	....	Cloudy.	
	Mid't.	29. 600	51. 7	51. 9	50. 2	0. 350	93. 0	SE	12	3-4 st......	0	0	....	Cloudy.	
Means..	......	29. 669	52. 48	.....	.....	0. 378	95. 92	....	....	....	.....	.....	....	....	

Latitude, 59°.10' N.; longitude, 13°.11' W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Dry.	Wet.	Force of vapor.	Relative humidity.	Direction.	Velocity.	Clouds.	Upper.	Lower.	Temperature of sea.	Weather.	Remarks.
Sept. 16	2	29. 562	51. 3	51. 5	51. 0	0. 368	96. 5	S	10	3-4 st......	0	0	....	Cloudy.	
	4	29. 547	50. 5	50. 4	50. 3	0. 363	97. 5	S	12	4-4 st......	0	0	....	Cloudy.	
	6	29. 546	50. 0	50. 2	49. 9	0. 360	98. 0	S	14	4-4 st......	0	0	....	Lt. rain.	
	8	29. 550	50. 3	50. 1	50. 0	0. 361	99. 0	S	15	4-4 st......	0	0	....	Lt. rain.	
	10	29. 533	50. 0	50. 3	50. 1	0. 362	98. 5	S	13	4-4 st......	0	0	....	Lt. rain.	
	Noon.	29. 523	50. 8	51. 0	50. 9	0. 373	99. 0	S	15	4-4 st......	0	0	....	Lt. rain.	
	2	29. 510	52. 0	52. 0	51. 8	0. 386	98. 0	SW	5	3-4 cum ... 1-4 st......	N	0	....	Cloudy.	
	4	29. 503	51. 7	51. 8	50. 5	0. 352	89. 6	W	5	3-4 cum ... 1-4 st......	0	0	....	Cloudy.	
	6	29. 518	51. 4	51. 4	50. 5	0. 354	89. 8	W	3	3-4 cum ... 1-4 st......	0	0	....	Cloudy.	
	8	29. 519	52. 0	52. 1	50. 1	0. 333	86. 2	NW	7	2-4 st...... 1-4 cum ...	0	0	....	Cloudy	
	10	29. 481	51. 2	51. 0	50. 2	0. 350	93. 0	NW	4	2-4 st......	0	0	....	Fair....	
	Mid't.	29. 442	52. 2	52. 1	51. 4	0. 367	96. 4	NW	8	2-4 st......	0	0	....	Fair....	
Means..	......	29. 519	51. 12	.....	.....	0. 361	95. 12	....	....	....	.....	.....	....	....	

Latitude, 58°.55' N.; longitude, 8°.19' W., at noon.

Date.	Time.	Barometer.	Exposed thermometer.	Dry.	Wet.	Force of vapor.	Relative humidity.	Direction.	Velocity.	Clouds.	Upper.	Lower.	Temperature of sea.	Weather.	Remarks.
Sept. 17	2	29. 418	52. 4	52. 4	51. 9	0. 382	96. 5	NW	6	2-4 st......	0	0	....	Fair....	
	4	29. 390	52. 0	52. 0	51. 6	0. 368	96. 5	NW	5	2-4 st......	0	0	....	Fair....	
	6	29. 321	52. 1	52. 0	51. 4	0. 369	96. 6	0	0	3-4 st......	0	0	....	Cloudy.	
	8	29. 286	52. 0	52. 0	51. 3	0. 369	96. 7	0	0	2-4 cum ... 1-4 st......	0	0	....	Cloudy.	
	10	29. 245	51. 9	52. 0	51. 8	0. 386	98. 0	0	0	2-4 cum ... 1-4 st......	0	0	....	Cloudy.	
	Noon.	29. 218	49. 4	49. 3	49. 1	0. 349	97. 5	NW	3	3-4 cum ... 1-4 st......	0	0	....	Lt. rain.	
	2	29. 170	49. 2	49. 1	49. 0	0. 348	98. 0	NW	2	3-4 cum ... 1-4 st......	0	0	....	Cloudy.	
	4	29. 138	49. 3	49. 2	49. 1	0. 349	97. 5	NW	2	3-4 cum ... 1-4 st......	0	0	....	Cloudy.	
	6	29. 142	48. 0	48. 2	47. 0	0. 311	92. 6	NW	12	4-4 st......	0	0	....	Lt. rain.	
	8	29. 138	48. 3	48. 5	48. 3	0. 337	97. 5	NW	12	1-4 cum ... 1-4 st......	0	0	....	Fair....	
	10	29. 141	50. 0	50. 0	49. 1	0. 336	92. 8	NW	18	1-4 st......	0	0	....	Fair....	
	Mid't.	29. 142	49. 2	49. 3	49. 0	0. 350	97. 5	NW	22	2-4 st......	0	0	....	Fair....	
Means..	......	29. 229	50. 32	.....	.....	0. 355	96. 48	....	....	....	.....	.....	....	....	

The preceding observations might yield some interesting results if we could compare them with those made simultaneously on board the United States steamers Juniata and Tigress, that had been sent in search of the missing crew of the expedition. Unfortunately, however, the observations made on board of these vessels were not found fit to be used, as we were utterly unable to determine the index-corrections to be applied to the barometers, thermometers, or psychrometers, although we had the instruments sent to this city through the kindness of the Department. When they arrived, the barometer was found to be broken, and, as there was quite a number of thermometers contained in the box, we had no means of ascertaining which instruments had been used in making the observations. There could be no doubt in regard to the identity of the psychrometer, as there was only one sent; but, as the construction of this instrument was such that the wet-bulb (which was surrounded by a considerable quantity of oakum in a somewhat filthy condition, instead of a piece of muslin, as commonly used) had to be entirely immersed when the instrument was being used, we had some serious doubts in regard to the correctness of the observations, the more so as an examination of the record demonstrated that there was a certain psychrometric difference prevailing which hardly varied during a day. Besides this calamity, the readings were not taken to the tenths of a degree, but gave the full degrees merely, which, as may well be imagined, is not sufficiently accurate at low temperatures. Regarding the nomenclature of the clouds, there seems to have been some misunderstanding, as there is hardly one day without the mention of nimbus, which, as is well known, seldom occur in the Arctic regions; or, at least, in the latitudes where they are recorded in this case. The facts stated above may be of sufficient weight to excuse our not giving these observations, as they would, perhaps, only mislead.

In giving a brief recapitulation and discussion of the preceding observations we shall begin with the

TEMPERATURE.

The following table contains the daily mean temperatures as observed during July and August, 1873; also, the daily maxima and minima, next to which the daily range will be found:

Day of the month.	July, 1873.				August, 1873.			
	Mean lat., 73°.5 N.; mean long., 76°.6 W.				Mean lat., 71°.2 N.; mean long., 72°.6 W.			
	Mean.	Maximum.	Minimum.	Range.	Mean.	Maximum.	Minimum.	Range.
	°	°	°	°	°	°	°	°
1	......	......	......	......	37.33	41.0	33.0	7.0
2	......	......	......	......	40.53	44.5	37.2	7.3
3	......	......	......	......	37.61	40.0	35.0	5.0
4	......	......	......	......	36.68	39.5	35.0	4.5
5	......	......	......	......	36.70	38.5	35.5	3.0
6	......	......	......	......	36.21	39.4	34.5	4.9
7	......	......	......	......	35.77	37.9	33.0	4.9
8	39.43	40.9	36.0	4.9	35.25	36.0	33.9	2.1
9	38.58	40.9	35.0	5.9	35.88	41.3	33.0	8.3
10	36.27	40.8	33.3	7.5	36.94	43.3	32.0	11.3
11	28.22	34.5	26.3	8.2	36.78	39.4	32.0	7.4
12	30.87	35.0	26.4	8.6	36.35	39.3	33.5	5.8
13	35.35	38.8	33.9	4.9	34.57	36.8	33.5	3.3
14	34.78	36.9	33.0	3.9	37.21	39.0	34.0	5.0
15	34.76	41.4	29.5	11.9	36.98	38.3	34.0	4.3
16	32.98	39.5	29.3	10.2	35.61	37.0	34.0	3.0
17	37.49	45.1	30.5	14.6	35.31	36.1	33.5	2.6
18	41.56	46.3	34.3	12.0	36.29	40.6	32.3	8.3
19	50.93	57.5	46.8	10.7	33.70	36.3	32.0	4.3
20	43.44	51.0	35.0	16.0	33.90	37.8	31.5	6.3
21	35.76	37.4	33.5	3.9	31.82	34.0	31.0	3.0
22	35.92	38.5	33.0	5.5	31.91	32.8	31.4	1.4
23	33.49	34.5	32.9	1.6	32.45	34.4	30.8	3.6
24	33.88	35.0	32.8	2.2	32.86	35.4	29.3	6.1
25	36.75	41.4	33.0	7.4	32.98	34.5	32.0	2.5
26	33.86	35.4	32.9	2.5	33.52	33.8	32.3	1.5
27	34.13	35.8	32.1	2.7	33.50	35.0	32.4	2.6
28	37.71	40.8	33.8	7.0	32.77	33.2	32.2	1.0
29	37.88	43.3	34.2	9.1	31.66	32.5	31.0	1.5
30	35.67	37.8	33.8	4.0	32.32	33.5	31.0	2.5
31	34.17	35.8	33.0	2.8	31.49	32.1	30.9	1.2
Means.	36.41	......	......	......	34.93	......	......	......

A comparison of the mean temperature of July and August shows that the former month was by 1°.48 warmer than the latter, which is in conformity with the annual march of the temperature. The mean temperature of July, in 1850, for the mean latitude, 73°.4 N., mean longitude, 58°.5 W., according to the meteorological register kept by the first Grinnell expedition, was 35°.9; and that of August, in the same year, 34°.8, mean latitude, 75°.3 N., mean longitude, 62°.0 W.; hence the difference between the two months is 1°.1, varying but slightly from that between July and August, 1873, although the season was more open during the latter year than in 1850.

The following table gives the mean temperature of July and August for different stations of Arctic America:

Locality.	Year.	July.	August.	Δ
		°	°	°
Winter Island	1822	35.33	36.88	—1.55
Repulse Bay	1847	41.46	46.32	—4.86
Iglulik	1823	31.58	33.88	—2.30
Felix Harbor	1830	44.6	40.9	+3.8
Port Kennedy	1859	39.98	36.76	+3.22
Port Bowen	1825	37.3	35.8	+1.5
Port Leopold	1849	36.0	33.7	+2.3
Griffith's Island	1851	36.60	33.70	+2.90
Beechy Island	1853–54	38.9	34.5	+4.4
Winter Harbor	1820	42.4	32.7	+9.7
Wellington Channel	1854	38.1	36.2	+1.9
Wolstenholm Sound	1850	40.52	33.67	+6.85
Northumberland Sound	1853	35.70	33.80	+1.90

It will be seen that at ten out of the thirteen stations above mentioned, July is warmer than August, the amplitude being largest for Winter Harbor and smallest for Port Bowen.

The maximum temperature in July was observed by us at 10^h a. m. on the 19th, being 57°.5; the minimum, during the same month, of 26°.3, occurred at 8^h a. m. on the 11th, during snow-fall. In August, the maximum occurred on the 2d, at 6^h p. m., being 44°.5, and the minimum, namely, 29°.3, on the 24th, at 6^h a. m. As the vessel was under way during the greatest part of the time, changing her position sometimes considerably during one day, being at one time in clear water and then forcing her way through ice, it can well be imagined that the daily range of temperature will have suffered greater modifications than if the ship had been stationary. The greatest range in July, amounting to 16°.0, was found on the 20th, one day after the maximum temperature of this month had been observed; the smallest range, of 1°.6, occurred three days later. In August, we find the greatest range on the 10th, namely, 11°.3; and the smallest, of 1°.0, on the 28th. The warmest day in July had a mean temperature of 50°.93 and the coldest of 28°.22, its range being consequently 12°.71. The highest mean temperature in August occurred on the 2d, namely, 40°.53; and the lowest, of 31°.60, on the last day of the month.

ATMOSPHERIC PRESSURE.

The following table gives the daily means of the atmospheric pressure during July and August; also, the maxima and minima of each day of the month, together with the daily range:

Day of the month.	July, 1873.				August, 1873.			
	Mean lat., 73°.5 N.; mean long., 76°.6 W.				Mean lat., 71°.2 N; mean long., 72°.6 W.			
	Mean.	Maximum.	Minimum.	Range.	Mean.	Maximum.	Minimum.	Range.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
1	....	....	....	....	29.769	29.810	29.726	0.084
2	....	....	....	....	29.849	29.882	29.820	0.062
3	....	....	....	....	29.743	29.830	29.670	0.160
4	....	....	....	....	29.676	29.693	29.662	0.031
5	....	....	....	....	29.738	29.765	29.692	0.073
6	....	....	....	....	29.669	29.694	29.601	0.093
7	....	....	....	....	29.660	29.720	29.560	0.160
8	30.170	30.189	30.151	0.038	29.584	29.726	29.526	0.200
9	30.136	30.153	30.108	0.045	29.950	30.023	29.753	0.270
10	30.059	30.092	30.028	0.064	29.993	29.999	29.983	0.016
11	30.072	30.095	30.027	0.068	29.969	30.004	29.943	0.061
12	30.138	30.162	30.103	0.059	29.894	29.960	29.840	0.120
13	30.029	30.107	29.895	0.212	29.659	29.819	29.502	0.317
14	29.878	29.980	29.779	0.201	29.354	29.495	29.270	0.225
15	30.060	30.105	30.002	0.103	29.231	29.310	29.123	0.187
16	30.182	30.215	30.142	0.073	29.144	29.197	29.110	0.087
17	30.196	30.221	30.159	0.062	29.176	29.234	29.105	0.129
18	30.030	30.157	29.898	0.259	29.302	29.423	29.208	0.215
19	29.846	29.888	29.763	0.125	29.415	29.462	29.363	0.099
20	29.678	29.739	29.634	0.105	29.754	29.877	29.518	0.359
21	29.616	29.645	29.596	0.049	29.645	29.877	29.449	0.428
22	29.639	29.662	29.615	0.047	29.417	29.585	29.330	0.255
23	29.681	29.734	29.642	0.092	29.834	30.000	29.640	0.360
24	29.752	29.772	29.715	0.057	30.058	30.103	30.008	0.095
25	29.641	29.707	29.599	0.108	29.850	29.980	29.788	0.192
26	29.712	29.781	29.630	0.151	29.856	29.894	29.765	0.129
27	29.821	29.840	29.783	0.057	29.645	29.755	29.600	0.155
28	29.852	29.882	29.828	0.054	29.699	29.752	29.628	0.124
29	29.834	29.879	29.772	0.107	29.746	29.778	29.690	0.088
30	29.692	29.759	29.659	0.100	29.751	29.838	29.700	0.138
31	29.669	29.718	29.648	0.070	29.874	29.883	29.867	0.016
Means.	29.891	....	....	....	29.674	....	....	....

According to our table, the monthly mean for July is, by $0^{in}.217$, higher than that for August, the former being $29^{in}.891$, the latter $29^{in}.674$ only. For the mean positions in Baffin's Bay, mentioned above, the log of the first Grinnell expedition gives the values: $29^{in}.82$ for July and $29^{in}.98$ for August. From the observations of Sir Edward Belcher, taken, in 1853, in Northumberland Sound and Wellington Channel, we obtain for the mean barometric pressure, in July, $29^{in}.670$, and in August, $29^{in}.719$. In both instances the barometric column was higher in the latter month than in the former. The same was the case at Port Kennedy, in 1859, and at Polaris Bay, in 1872, but not in Baffin's Bay, in 1857, when the mean pressure during July was, by $0^{in}.017$, higher than in August. This was also the case at Van Rensselaer Harbor, in 1854, and at Port Foulke, in 1861. Evidently, we might expect the mean of the former month to be higher than that of the latter, at all the stations above mentioned, if the series of observations were sufficiently long and numerous. It should, however, be borne in mind that the atmospheric pressure must be considerably affected by the condition of the ice in the seas surrounding the respective stations.

WINDS.

The following table gives the relative frequency and velocity of the winds, also expressed in percentages, both for July and August. The winds were recorded from eight principal points of the compass:

Direction.	July, 1873. Mean latitude, 73°.5 N; mean longitude, 76°.6 W.				August, 1873. Mean latitude, 71°.2 N; mean longitude, 72°.6 W.			
	Hours.	Velocities.	Percentage of hours.	Percentage of velocity.	Hours.	Velocities.	Percentage of hours.	Percentage of velocity.
N	80	754	27.8	35.7	39	396	10.5	10.1
NE	34	299	11.8	14.1	46	465	12.4	11.8
E	32	283	11.1	13.4	30	336	8.1	8.5
SE	10	30	3.5	1.4	25	492	6.7	12.5
S	9	80	3.1	3.8	66	1,046	17.7	26.6
SW	3	4	1.0	0.2	41	450	11.0	11.4
W	18	110	6.3	5.2	44	519	11.8	13.2
NW	47	552	16.3	26.2	20	233	5.4	5.9
Calms	55	....	19.1	....	61	....	16.4	....
Σ	288	2,112	100.0	100.0	372	3,937	100.0	100.0

In July the prevailing wind was due north, while in August it blew from the opposite direction, although we had decreased both our latitude and longitude, and were consequently approaching Iceland. A glance at the table containing the mean atmospheric pressure shows that the latter was in strict accordance with the prevailing direction of the wind, viz, higher in July than in August. In both months the percentage of calms follows next to that of the prevailing wind, the calms being, however, more frequent during the former month than during the latter. If we compare Sir Edward Belcher's observations, previously referred to, we shall see that, in July, 1852, the vessel cruising in Baffin's and Melville Bays, the prevailing winds were southerly; and although a portion of the following month was spent in Northumberland Sound, where southerly winds are largely prevailing, northerly winds were noted more frequently than those from the opposite point of the compass. The first Grinnell expedition, in 1850, mostly met with northerly winds during the two months under consideration, southerly winds prevailing only during the first part of July. We abstain from drawing any more comparisons, as our series of observations are too short and the winds too variable to enable us to deduce any reliable results from them; besides this, we should have to disregard the velocities, which are given rather vaguely in the different documents that might be taken into consideration. From the detailed record it will be seen that we never experienced any storms, although, in several instances, the sea was very rough and ugly; and as on such occasions we always noticed sudden changes of the barometric column, we might conclude that high winds must have been raging in the vicinity.

HYGROMETRICAL OBSERVATIONS.

The following table gives the daily and monthly means of the force of vapor and relative humidity, as deduced from the preceding psychrometrical observations:

Date.	Daily means.		Date.	Daily means.		Date.	Daily means.	
	Force of vapor.	Relative humidity.		Force of vapor.	Relative humidity.		Force of vapor.	Relative humidity.
1873.	*Inches.*	*Per cent.*	1873.	*Inches.*	*Per cent.*	1873.	*Inches.*	*Per cent.*
July 8	0.199	82.97	Aug. 1	0.195	88.07	Sept. 1	0.192	92.32
9	0.227	90.56	2	0.219	87.84	2	0.208	92.83
10	0.192	89.89	3	0.200	99.09	3	0.224	91.39
11	0.139	91.40	4	0.213	97.67	4	0.257	92.59
12	0.158	91.26	5	0.199	91.67	5	0.251	93.69
13	0.191	92.46	6	0.196	91.88	6	0.251	85.86
14	0.196	95.64	7	0.201	95.04	7	0.306	95.61
15	0.192	95.81	8	0.202	97.78	8	0.271	92.86
16	0.171	91.66	9	0.187	89.65	9	0.299	91.81
17	0.206	91.39	10	0.191	86.82	10	0.349	94.62
18	0.245	92.36	11	0.186	85.66	11	0.335	89.24
19	0.277	75.31	12	0.190	89.94	12	0.307	80.03
20	0.256	93.82	13	0.177	88.87	13	0.346	87.19
21	0.197	95.12	14	0.199	89.97	14	0.385	96.49
22	0.197	93.79	15	0.203	92.61	15	0.378	95.92
23	0.183	95.77	16	0.192	92.44	16	0.361	95.12
24	0.191	98.53	17	0.191	94.49	17	0.355	96.48
25	0.204	93.78	18	0.189	89.48			
26	0.188	96.66	19	0.175	90.39			
27	0.191	97.54	20	0.178	91.80			
28	0.207	91.63	21	0.165	92.23			
29	0.211	93.72	22	0.172	93.47			
30	0.194	93.13	23	0.174	94.39			
31	0.178	90.74	24	0.171	91.63			
			25	0.182	96.38			
			26	0.186	95.17			
			27	0.186	95.99			
			28	0.183	95.42			
			29	0.172	95.37			
			30	0.176	95.49			
			31	0.172	96.73			
Means...	0.1995	92.289	Means...	0.1878	92.691	Means...		

The hygrometrical conditions of the atmosphere, as observed in July and August, in Lancaster Sound and Baffin's Bay, are similar to those of the corresponding months at Polaris Bay, viz, the force of vapor being greater in July than in August, and the relative humidity less in the former month than in the latter. It will be remembered that the barometric mean of July was, by $0^{in}.217$, higher than in the following month; but a comparison of the mean atmospheric pressure and the mean force of vapor would show that only a small amount of the higher pressure during July is due to the influence of the force of vapor, which would only affect the second decimal in our barometric mean, if the corresponding correction was applied. The sudden increase of the force of vapor in September will readily be understood if we keep in mind that the greater portion of the seventeen days in this month, during which the observations were made, were spent on our journey homeward through the North Atlantic.

As in the preceding record of meteorological observations those on atmospheric precipitation are not given in detail, we propose to do this here in the following synopsis:

July 11.—Light snow during 4 hours; amount not measurable. Wind NE.
July 12.—Light snow during 2 hours; amount not measurable. Wind NE.
July 14.—Rain from $4^h\ 10^m$ a. m. to $7^h\ 30^m$ a. m.; amount, $0^{in}.26$. Wind E.
July 30.—Light rain from $7^h\ 40^m$ a. m. till noon; amount too small to be measured. Calm.
August 3.—Rain during 8½ hours; amount, $0^{in}.08$. Wind SW.
August 4.—Rain during 3 hours; amount, $0^{in}.06$. Calm.

August 8.—Rain during 13 hours; amount, $0^{in}.38$. Wind W., SW., and S.
August 17.—Rain during 2 hours; amount not known. Wind NE.
August 21.—Light snow during 6½ hours; not measurable. Wind SE.
August 22.—Light snow during 9 hours; not measurable. Wind SE.
August 25.—Light rain during 8½ hours; amount not known. Wind SW.
August 26.—Light drizzling rain during 4 hours; amount not measurable. Wind SW.
August 27.—Light rain during 2½ hours; amount not known. Wind SW.
August 28.—Light snow during 1 hour; amount not measurable. Wind W.

Consequently, it snowed during 23½ hours in the two months; namely, 6 hours in July and 17½ hours in August.

Rain-fall was noted during 50½ hours, namely, 9 in July, the rest in August. The amount of rain that could be measured was $0^{in}.780$.

FACE OF THE SKY.

The following table gives the amount of clouds, as observed during July and August, by hours, and also expressed in percentages:

Month.	Clear.	⌣	1-4.	2-4.	3-4.	4-4.	Total.
July, by hours	5	67	47	46	33	90	288
in per cent....	1.7	23.3	16.3	16.0	11.4	31.3	100.0
August, by hours ...	0	32	47	56	72	165	372
in per cent..	0.0	8.6	12.6	15.1	19.3	44.4	100.0

If we calculate the mean amount of clouds, we obtain for
July, 2.2, and for August, 2.8.

Consequently, it was clearer in July than in August; during the latter month there is not a single instance on record when the sky was perfectly clear. At Polaris Bay, August was clearer than July; the mean amount of clouds for the latter month being 2.7 and for the former 1.9. Fog occurred, however, more frequently in Lancaster Sound and Baffin's Bay during July than during August, as may be seen from the following table, in which we have grouped the number of recorded fogs according to the direction of the wind observed at the time:

Month.	N.	NE.	E.	SE.	S.	SW.	W.	NW.	Calms.	Σ.
July........	31	8	3	0	3	0	0	11	7	63
August.....	11	1	3	0	9	0	6	4	8	42

In July fog was observed on 63 occasions, and in August on 42 only, although the record for the latter month is more complete than for the former.

The mean amount of clouds at Polaris Bay and Polaris House having been omitted in the chapter relating to the face of the sky, is now given here.

Mean amount of clouds at Polaris Bay and Polaris House, ¼ taken as unit.

	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.
Polaris Bay, 1871–72.....	2.5	2.0	1.7	2.0	2.4	2.0	1.9	2.2	2.7	1.9
Polaris House, 1872–73 ..	2.2	1.4	1.6	1.8	1.7	2.3	2.0	......	......	......

SOLAR RADIATION.

The following observations on solar radiation, which formed a part of our meteorological record kept on board the Arctic, were not given on the preceding pages, because we did not consider them sufficiently accurate for publication; but as they may still be of some interest, we do not hesitate to record a portion of them in this place. They are faulty in that they were not made with a thermometer in vacuo, it being at the time beyond our means to obtain one. The instrument used was a long-stem Casella standard thermometer, the bulb of which was blackened with Indian ink. In order to make the observations somewhat comparable with others, we inclosed the bulb and a portion of the stem of the instrument in a test-tube, filled with air. As in our previous observations, the thermometer was exposed on white cotton.

The following table contains the observations made from the 18th to the 22d of July. Next to the columns containing the readings of the black bulb the temperature of the air is given, followed by the amount of solar heat. The last column of each division shows the amount of clouds, as explained before:

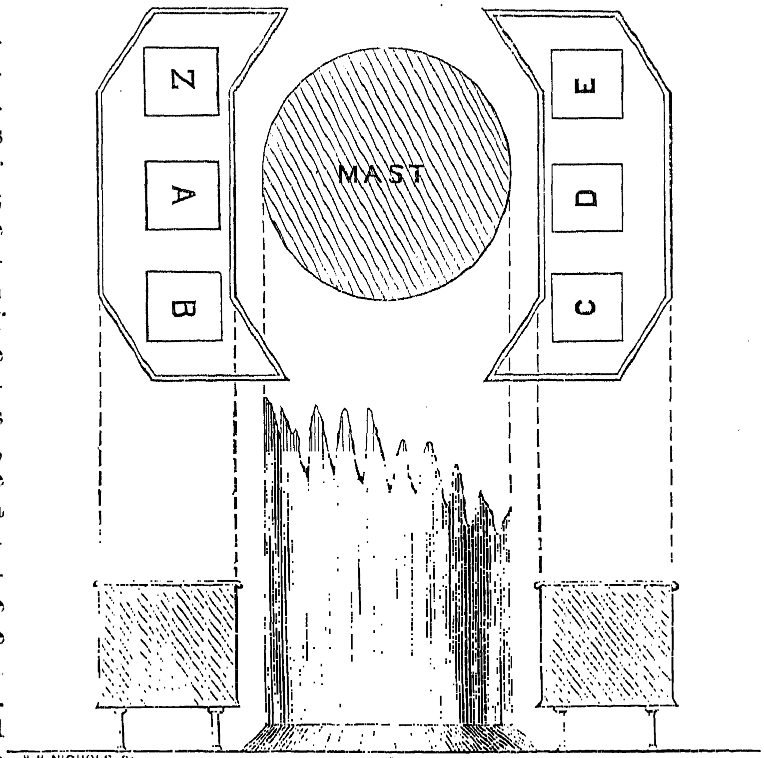
Hours.	July 18, 1873.				July 19, 1873.				July 20, 1873.				July 21, 1873.			
	Lat., 73°.15'.18" N.; long., 72°.06'.30" W.				Lat., 73°.51' N.; long., 79°.00' W.				Lat., 73°.42' N.; long., 83°.00' W.				Lat., 73°.42' N.; long., 83°.00' W.			
	Black-bulb thermometer.	Exposed thermometer.	Solar heat.	Face of the sky.	Black-bulb thermometer.	Exposed thermometer.	Solar heat.	Face of the sky.	Black-bulb thermometer.	Exposed thermometer.	Solar heat.	Face of the sky.	Black-bulb thermometer.	Exposed thermometer.	Solar heat.	Face of the sky.
	°	°	°		°	°	°		°	°	°		°	°	°	
2h	47.0	35.8	11.2	◡	56.8	47.0	9.8	◡	50.2	45.8	4.4	◡	38.5	35.2	3.3	2-4
4	50.4	34.3	16.1	1-4	63.0	49.5	13.5	◡	51.6	47.0	4.6	1-4	37.4	36.0	1.4	2-4
6	71.0	35.0	36.0	◡	72.5	51.0	21.5	◡	54.7	50.9	3.8	2-4	39.0	35.8	3.2	2-4
8	89.2	38.8	50.4	◡	82.7	51.8	30.9	◡	57.3	51.0	6.3	1-4	43.2	35.0	8.2	◡
10	97.3	40.8	56.5	◡	94.3	57.5	36.8	◡	81.5	49.5	32.0	1-4	47.8	37.2	10.6	2-4
Noon.	89.3	44.2	45.1	2-4	82.5	53.5	29.0	2-4	79.8	46.7	33.1	2-4	54.3	37.4	16.9	4-4
2h	102.5	42.5	60.0	1-4	100.2	56.5	43.7	2-4	51.5	40.5	11.0	2-4	44.0	36.8	7.2	4-4
4	102.0	43.8	58.2	1-4	105.8	55.2	50.6	1-4	73.5	41.0	32.5	3-4	......	.....	......	....
6	92.5	46.3	46.2	◡	123.5	46.8	76.7	1-4	47.4	42.2	5.4	4-4	45.5	36.0	9.5	3-4
8	62.0	46.2	15.8	◡	......	......	......	....	39.0	36.2	2.8	4-4	40.0	35.0	5.0	3-4
10	53.8	45.2	8.6	◡	......	......	......	....	43.0	35.7	7.3	4-4	38.4	34.8	3.6	2-4
Midn't.	52.8	46.0	6.8	◡	53.8	47.8	6.0	◡	36.0	35.0	1.0	3-4	34.9	33.5	1.4	1-4

CHRONOMETER-JOURNAL.

CHRONOMETER-JOURNAL.

As in the course of the astronomical and pendulum observations we shall frequently have to refer to the rates of the chronometers, we give herewith that part of our chronometer-journal which was saved from the wreck.

The expedition was supplied with ten chronometers, four of which were pocket-chronometers. Three of the six box-chronometers (Negus) indicated mean, the rest sidereal time. The three mean-time chronometers were sent on board of the Polaris previous to the sailing of the vessel from Washington City, whereas the three sidereal ones were procured from the maker at New York. All the instruments were kept in a little closet at the port side of the cabin until we left New York. Then the box-chronometers were transferred in two cases (three in each), resting on four legs each, and fastened to the cabin-floor near the mast, but disconnected from the latter. The accompanying diagram is intended to show the position of the boxes, which were lined with heavy cushions of horse-hair and cloth, in order to protect the instruments against injury from concussions of the vessel with ice. As will be seen, the chronometers kept their respective rates better than could have been expected; and we think that, besides the superior character of the instruments, this uniform rate is in great part due to the manner of keeping the time-pieces, as the lining of the cases not only prevented or moderated the shocks produced by running against ice, but also kept the variation of the temperature in the box within a small range, as proved by a maximum and minimum thermometer, kept occasionally for some time in one or the other of the boxes during the winter of 1871 to 1872, spent at Polaris Bay. The instruments were compared and wound up daily at the same time, until the arrival of the vessel at Goodhavn, in West Greenland; this was done by the late commander of the expedition and by the writer. Afterward, the comparisons were made mostly by Mr. R. W. Bryan and the writer, or by Mr. Fred. Meyer. In some rare instances, others assisted. The comparisons were made to the nearest tenth of a second, and in such a manner that one observed the instrument selected as standard, and gave his signal by calling "time," when the other called off the seconds, minutes, and hour, as indicated by the respective chronometer he compared. Invariably, at least two comparisons were taken of each time-piece and the standard chronometer; sometimes, if the results did not agree within $0^s.2$, a third or fourth one was obtained.



Finally, it may be well to state that, in the following record, the box-chronometers are not designated by their numbers as given by the maker, but by the letters A, B, C, D, E, and Z (standard). This was done partly to prevent mistakes in recording a long row of figures; partly because it is rather disagreeable to write more than is necessary when the temperature is low. The pocket-chronometers (by different makers) were designated F, G, H, and I. After the loss of the vessel, the three remaining box-chronometers were kept in Polaris House on the writer's desk.

Date.	Chron. A. Z — A	Diff.	Chron. B. Z — B	Diff.	Chron. D. Z — D	Diff.	Chron. E. Z — E	Diff.	Chron. F. Z — F	Diff.	Chron. H. Z — H	Diff.
1872	h. m. s.	m. s.	h. m. s.	m. s.	h. m. s.	s.	h. m. s.	m. s.	h. m. s.	s.	h. m. s.	s.
Sept. 21	1 30 40		5 40 30		4 37 10		5 39 10		12 52 40		9 30 26	
	4 30 32.5		21 21.7		1 25 12		23 33.3		5 10 53.5		8 35 25.7	
Sept. 22	1 33 27		5 43 06		4 37 15		5 43 30		12 52 40		9 29 20.4	
	4 26 37.5	3 55	17 26.5	3 55.2	1 25 18.7	06.7	19 38	3 55.3	5 11 18.3	24.8	8 35 29.6	03.9
Sept. 23	1 37 20		5 46 50		4 35 37		5 45 40		12 50 20		9 27 16.4	
	4 22 42	3 55.5	13 31	3 55.5	1 25 25	06.3	15 43	3 55	5 11 50.3	32	8 35 33.9	04.3
Sept. 24	1 41 17		5 51 10		4 35 50		5 50 05		12 50 50.4		9 28 14	
	4 18 46.5	3 55.5	9 35	3 56	1 25 31.5	06.5	11 47.5	3 55.5	5 12 22.1	31.8	8 35 38.7	04.8
Sept. 25	1 45 12		5 55 05		4 35 34		5 53 40		12 49 20		9 27 24	
	4 14 50.6	3 55.9	5 39.5	3 55.5	1 25 38	06.5	7 52.7	3 54.8	5 12 53	30.9	8 35 41.7	03
Sept. 26	1 49 07		5 59 15		4 35 50		5 58 05		12 49 36		9 27 40	
	4 10 55.3	3 55.3	1 43.7	3 55.8	1 25 44	06	3 57	3 55.7	5 13 20.5	27.5	8 35 46.7	05
Sept. 27	1 53 05		6 02 40		4 35 20		6 02 47		12 49 40		9 28 16	
	4 06 59.5	3 55.8	11 57 48.2	3 55.5	1 25 50.5	06.5	01.5	3 55.5	5 13 52	32.5	8 35 54.5	07.8
Sept. 28	1 59 22		6 08 54		4 37 24		6 07 37		12 49 50.4		9 29 24	
	4 03 03.5	3 56	11 53 52.5	3 55.7	1 25 57	06.5	11 56 06	3 55.5	5 14 18.3	26.3	8 35 59.5	05
Sept. 29	2 00 54		6 11 03		4 35 33		6 09 50		12 47 40		9 27 20	
	3 59 08.2	3 55.3	11 49 57	3 55.5	1 26 03	06	11 52 10.5	3 55.5	5 14 51.7	33.4	8 36 06	06.5
Sept. 30	2 04 50		6 14 35		4 35 00		6 13 22		12 47 22		9 27 04	
	3 55 12.2	3 56	11 46 01	3 56	1 26 09	06	11 48 14.5	3 56	5 15 16	24.3	8 36 11.5	05.5
Oct. 1	2 10 34		6 20 10		4 36 25		6 18 50		12 48 00		9 27 56	
	3 51 15.5	3 56.7	11 42 05	3 56	1 26 15.5	06.5	11 44 18.5	3 56	5 15 42	26	8 36 17.5	06
Oct. 2	2 15 05		6 24 32		4 36 55		6 23 23		12 48 20		9 28 30	
	3 47 19	3 56.5	11 38 08.7	3 56.3	1 26 21.5	06	11 40 22.7	3 55.8	5 16 05.5	23.5	8 36 22	05.5
Oct. 3	2 17 00		6 26 43		4 38 19		6 25 49		12 46 30		9 26 54	
	3 43 23	3 56	11 34 12.7	3 56	1 26 27.5	06	11 36 27.5	3 55.2	5 16 26	20.5	8 36 28	06
Oct. 4	2 20 48		6 30 43		4 38 00		6 29 35		12 46 00		9 27 28	
	3 39 27	3 56	11 30 16.5	3 56.2	1 26 33.3	05.8	11 32 32	3 55.5	5 16 50	24	8 36 32.5	04.5
Oct. 5	2 25 53		6 35 30		4 35 35		6 34 05		12 46 02.4		9 27 20	
	3 35 30.5	3 56.5	11 26 20	3 56.5	1 26 39	05.7	11 28 35.5	3 56.5	5 17 14.6	24.6	8 36 37	04.5
Oct. 6	2 33 53		6 43 26		4 39 48		6 42 24		12 50 10		9 31 40	
	3 31 34	3 56.5	11 22 23.3	3 56.7	1 26 45.5	06.5	11 24 39.5	3 56	5 17 39.5	24.9	8 36 41.5	04.5
Oct. 7	4 20 06		8 29 53		6 21 42		8 28 38		2 32 00		11 13 54	
	3 27 21.2	4 12.8	11 18 10	4 13.3	1 26 51.5	06	11 20 26.5	4 13	5 18 03	33.5	8 36 45.7	04.2
Oct. 8	2 36 20		6 45 54		4 34 06		6 44 43		12 43 34		9 28 46	
	3 23 43	3 38.2	11 14 31.5	3 38.5	1 26 57	05.5	11 16 48	3 38.5	5 18 28	25	8 36.52.7	07
Oct. 9	2 40 18		6 49 50		4 33 40		6 48 13		12 42 38		9 24 58	
	3 19 47	3 56	11 10 35	3 56.5	1 27 03	06	11 12 52	3 56	5 18 52	24	8 36 57	04.7
Oct. 10	2 56 44		7 06 32		4 46 23		7 07 10		12 58 00		9 40 52	
	3 15 48.5	3 57.5	11 06 37	3 58	1 27 09.5	06.5	11 08 53.5	3 58.5	5 19 15.5	23.5	8 37 01.5	04.5
Oct. 11	2 48 07		6 57 40		4 33 40		6 56 37		12 42 30		9 25 52	
	3 11 54.5	3 54	11 02 43	3 54	1 27 15.5	06	11 05 00.5	3 53	5 19 44	28.5	8 37 05.5	04
Oct. 12	2 52 10		7 01 40		4 33 54		7 01 04		12 42 32		9 26 16	
	3 07 58.5	3 56	10 58 47	3 56	1 27 22.3	06.8	11 01 04.5	3 56	5 20 11	27	8 37 12.3	06.8
Oct. 13	2 56 00		7 05 35		4 33 32		7 04 23		12 41 34		9 25 30	
	3 04 02.5	3 56	10 54 50	3 57	1 27 27.5	05.2	10 57 08.5	3 56	5 20 39	27	8 37 17.5	05.2
Oct. 14	2 59 57		7 10 12		4 34 18		7 09.04		12 42 04		9 26 42	
	3 00 06.5	3 56	10 50 52.5	3 57.5	1 27 33.5	06	10 53 12.5	3 56	5 21 03.7	24.7	8 37 21	03.5
Oct. 15	3 05 01		7 14 16		4 34 48		7 13 40		12 42 18		9 27 02	
	2 56 10	3 56.5	10 46 57	3 55.5	1 27 39.5	06	10 49 16.5	3 56	5 21 35	31.3	8 37 25.3	04.5

Date.	Chron. A. D — A	Diff.	Chron. B. D — B	Diff.	Chron. E. D — E	Diff.	Chron. H. D — H	Diff.	Remarks.
1872.	h. m. s.	m. s.	h. m. s.	m. s.	h. m. s.	m. s.	h. m. s.	s.	
Oct. 16	3 12 24		7 22 12		7 20 31.5		9 29 28		
	1 24 27.5		9 15 14.5		9 17 34.5		7 09 46.5		
Oct. 17	4 51 36		9 01 18		8 59 45.5		11 05 06		
	1 20 10	4 17.5	9 10 55.5	4 19	9 13 16.5	4 18	7 09 51.5	05	
Oct. 18	3 59 40		8 09 36		8 08 06		10 08 48		
	1 16 17.5	3 52.5	9 07 02	3 53.5	9 09 24	3 54.5	7 09 54.5	03	
Oct. 19	3 29 30		7 39 18		7 37 37.5		9 33 54		
	1 12 21	3 56.5	9 03 05.5	3 56.5	9 05 28.5	3 55.5	7 09 56.5	02	
Oct. 20									No comparison.
Oct. 21	2 16 30		6 26 20		6 24 37		8 12 54		
	1 04 30		8 55 13.5		8 57 38		7 09 56		
Oct. 22									No comparison.
Oct. 23									No comparison. Chron. "H" ran down.
Oct. 24	4 40 15		8 50 05		8 48 05		9 33 20		
	0 52 01.5		8 42 43		8 45 11		8 00 57		
Oct. 25									No comparison.
Oct. 26	5 02 20		9 12 20		9 10 30		9 47 20		
	0 43 55.5		8 34 36		8 37 05.5		8 00 57.5		
Oct. 27	(24)? 5 25 55		9 35 05		9 33 05		10 06 00		
	(39)? 0 38 51.5	4 04	8 30 31	4 05	8 33 01.6	4 03.9	8 00 57	00.5	
Oct. 28	5 26 10		9 36 00		9 34 00		10 02 50.4		
	0 35 50	4 01.5	8 26 30	4.01	8 29 01	4 00.6	8 00 56.2	00.8	
Oct. 29	5 31 52		9 42 17		9 40 32		10 05 14		
	0 31 48.5	4 01.5	8 22 27	4 03	8 24 59	4 02	8 00 59.5	03.3	
Oct. 30	5 40 57		9 57 00		9 55 00		10 15 40		
	0 27 45	4 03.5	8 18 23	4 04	8 20 56.5	4 02.5	8 00 58.5	01	
Oct. 31	5 38 42		9 48 45		9 46 42		10 03 10		
	0 23 46	3 59	8 14 22.5	4 00.5	8 16 57	3 59.5	8 00 59	00.5	
Nov. 1	5 42 10		9 52 05		9 49 55		10 02 26		
	0 19 44	4 02	8 10 21	4 01.5	8 12 56	4 01	8 00 58	01	
Nov. 2	5 46 50		9 56 50		9 54 45		10 03 20		
	0 15 42.5	4 01.5	8 06 19	4 02	8 08 55	4 01	8 00 56	02	
Nov. 3	5 51 20		10 01 10		9 59 00		10 03 30		
	0 11 41	4 01.5	8 02 17	4 02	8 04 54	4 01	8 00 53.6	02.4	
Nov. 4	5 53 05		10 03 05		10 01 00		10 01 40		
	0 07 40.5	4 00.5	7 58 15	4 02	8 00 53	4 01	8 00 51	02.6	

Date.	Chron. A. D — A	Diff.	Chron. B. D — B	Diff.	Chron. E. D — E	Diff.	Chron. H. D — H	Diff.	Remarks.
1872.	h. m. s.	m. s.	h. m. s.	m. s.	h. m. s.	m. s.	h. m. s.	s.	
Nov. 5	6 00 33		10 10 35		10 08 30		10 05 32		
	0 03 38.5	4 02	7 54 12.6	4 02.4	7 56 51.7	4 01.3	8 00 51.6	00.6	
Nov. 6	6 03 20		10 13 20		10 09 30		10 03 50		
	11 59 37.5	4 01	7 50 11	4 01.6	7 52 51	4 00.7	8 00 49.5	02.1	
Nov. 7	6 06 04		(16)? 10 15 16		10 11 55.5		10 02 27		
	11 55 36.5	4 01	(46)? 7 47 09.5	4 01.5	7 48 50	4 01	8 00 47.5	02	
Nov. 8	6 09 35		10 19 40		10 17 35		10 02 20		
	11 51 34.5	4 02	7 42 07.5	4 02	7 44 49	4 01	8 00 46	01.5	
Nov. 9	(14)? 6 09 20		10 24 10		10 21 55		10 02 32		
	(47)? 11 52 33	4 01.5	7 38 05	4 02.5	7 40 48	4 01	8 00 44	02	
Nov. 10	6 16 35		10 26 38		10 24 25		10 00 54		
	11 43 31.5	4 01.5	7 34 04	4 01	7 36 47	4 01	8 00 42.5	01.5	
Nov. 11	6 22 40		10 32 40		10 30 25		10 02 56		
	11 39 29.5	4 02	7 30 01	4 03	7 32 45	4 02	8 00 43.4	00.9	
Nov. 12	6 24 35		10 34 30		10 32 40		10 01 10		
	11 35 29	4 00.5	7 25 59	4 02	7 28 44.5	4 00.5	8 00 44.6	01.2	
Nov. 13	6 28 35		10 38 35		10 36 15		10 01 00		
	11 31 27.5	4 01.5	7 21 57	4 02	7 24 44	4 00.5	8 00 42	02.6	
Nov. 14	6 32 50		10 42 40		10 40 15		10 00 44		
	11 27 26	4 01.5	7 17 54.5	4 02.5	7 20 43	4 01	8 00 39.5	02.5	
Nov. 15	6 36 40		10 47 00		10 44 44		10 01 20		
	11 23 24.5	4 01.5	7 13 52.5	4 02	7 16 42	4 01	8 00 39	00.5	
Nov. 16	6 41 40		10 51 35		10 49 10		10 01 44		
	11 19 23	4 01.5	7 09 50.5	4 02	7 12 41.5	4 00.5	8 00 36	03	
Nov. 17	6 45 10		10 55 10		10 52 50		10 01 34		
	11 15 21.5	4 01.5	7 05 49.5	4 01	7 08 40.5	4 01	8 00 33.6	02.4	
Nov. 18	6 49 35		10 59 36		10 57 15		10 01 52		
	11 11 20	4 01.5	7 01 48	4 01.5	7 04 39	4 01.5	8 00 31	02.6	
Nov. 19	6 52 46		11 02 48		11 00 33		10 01 10		
	11 07 19	4 01	6 57 46	4 02	7 00 39	4 00	8 00 30	01	
Nov. 20	6 56 45		11 07 00		11 04 36		10 01 10		
	11 03 17.5	4 01.5	6 53 44	4 02	6 56 38	4 01	8 00 30	00	
Nov. 21	7 01 00		11 10 55		11 08 20		10 01 10		
	10 59 16	4 01.5	6 49 42.5	4 01.5	6 52 37.5	4 00.5	8 00 30	00	
Nov. 22	7 05 00		11 15 00		(13)? 11 14 00		10 02 50		
	10 55 14.5	4 01.5	6 45 41	4 01.5	(48)? 6 47 36.5	4 01	8 00 27.9	02.1	

Date.	Chron. A. D — A	Diff.	Chron. B. D — B	Diff.	Chron. E. D — E	Diff.	Chron. H. D — H.	Diff.	Remarks.
1872.	h. m. s.	m. s.	h. m. s.	m. s.	h. m. s.	m. s.	h. m. s.	s.	
Nov. 23	7 08 52		11 18 50		11 16 24		10 01 02		
	10 51 13	4 01.5	6 41 38.6	4 02.4	6 44 35.5	4 01	8 00 25.6	02.3	
Nov. 24	7 16 15		11 26 15		11 23 35		10 04 20		
	10 47 11	4 02	6 37 36	4 02.6	6 40 34	4 01.5	8 00 26	00.4	
Nov. 25	7 16 52		11 26 50		11 24 10		10 00 50		
	10 43 10	4 01	6 33 34.5	4 01.5	6 36 33.5	4 00.5	8 00 23	03	
Nov. 26	7 21 00		11 31 00		11 28 20		10 01 10		
	10 39 08.5	4 01.5	6 29 33	4 01.5	6 32 33	4 00.5	8 00 20	03	
Nov. 27	7 25 05		11 35 05		11 32 38		10 01 20		
	10 35 06.5	4 02	6 25 32	4 01	6 28 31	4 02	8 00 18	02	
Nov. 28	7 29 00		11 39 00		11 36 20		10 01 10		
	10 31 05	4 01.5	6 21 30	4 02	6 24 30	4 01	8 00 15.6	02.4	
Nov. 29	7 33 22		11 43 22		11 40 45		10 02 10		
	10 27 03	4 02	6 17 28	4 02	6 20 28.5	4 01.5	8 00 12.6	03	
Nov. 30	7 37 04		11 47 00		11 44 20		10 01 10		
	10 23 01	4 02	6 13 26	4 02	6 16 28	4 00.5	8 00 09.8	02.8	
Dec. 1	7 42 33		11 52 45		11 50 12		10 03 10		
	10 18 59.5	4 01.5	6 09 23	4 03	6 12 26.5	4 01.5	8 00 06.9	02.9	
Dec. 2	7 45 10		11 55 20		11 52 50		10 02 20		
	10 14 58.5	4 01	6 05 22.5	4 00.5	6 08 25.8	4 00.7	8 00 04.6	02.3	
Dec. 3	7 50 42		12 00 45		11 58 05		10 03 20		
	10 10 57.5	4 01	6 01 20	4 02.5	6 04 24.5	4 01.3	8 00 02	02.6	
Dec. 4	7 53 07		12 03 23		12 00 40		10 01 36		
	10 06 55.5	4 02	5 57 18.5	4 01.5	6 00 23.5	4 01	7 59 59.6	02.4	
Dec. 5	7 57 32		12 07 37		12 05 00		10 01 56		
	10 02 54.5	4 02	5 53 16.5	4 02	5 56 23	4 00.5	7 59 57	02.6	
Dec. 6	8 01 10		12 11 50		12 09 40		10 02 40		
	9 58 52.8	4 01.7	5 49 14.5	4 02	5 52 22	4 01	7 59 55	02	
Dec. 7	8 05 20		12 15 24		12 12 37		10 01 50.4		
	9 54 51.5	4 01.3	5 45 13	4 01.5	5 48 21.5	4 00.5	7 59 52.6	02.4	
Dec. 8	8 09 10		12 19 50		12 16 10		10 01 56		
	9 50 50	4 01.5	5 41 10.5	4 02.5	5 44 20	4 01.5	7 59 50	02.6	
Dec. 9	8 14 23		12 24 35		12 21 52		10 03 00		
	9 46 48.5	4 01.5	5 37 09	4 01.5	5 40 19	4 01	7 59 47.4	02.6	
Dec. 10	8 17 30		12 27 35		12 24 50		10 02 04		
	9 42 47.5	4 01	5 33 07	4 02	5 36 19	4 00	7 59 44.8	02.6	

Date.	Chron. A. D—A	Diff.	Chron. B. D—B	Diff.	Chron. E. D—E	Diff.	Chron. H. D—H	Diff.	Remarks.
1872.	*h. m. s.*	*m. s.*	*h. m. s.*	*m. s.*	*h. m. s.*	*m. s.*	*h. m. s.*	*s.*	
Dec. 11	8 26 15		12 36 32		12 33 48		10 07 00		
	9 38 45.5	4 02	5 29 05	4 02	5 32 17	4 02	7 59 42	02.8	
Dec. 12	8 27 43		12 37 47		12 35 00		10 04 08		
	9 34 45	4 00.5	5 25 03	4 02	5 28 17	4 00	7 59 41.8	00.2	
Dec. 13	8 30 05		12 40 20		12 37 30		10 03 40		
	9 30 44	4 01	5 21 02	4 01	5 24 16.5	4 00.5	7 59 39.9	01.9	
Dec. 14	8 33 17		12 43 22		12 40 35		10 01 40		
	9 26 43	4 01	5 17 00	4 02	5 20 16.5	4 00	7 59 38.8	01.1	
Dec. 15	8 38 00		12 48 40		12 45 45		10 03 10		
	9 22 41.5	4 01.5	5 12 58.5	4 01.5	5 16 15	4 01.5	7 59 21.2	17.6	
Dec. 16	8 41 42		12 51 50		12 48 50		10 02 00		
	9 18 40	4 01.5	5 08 56	4 02.5	5 12 14.5	4 00.8	7 59 34	12.8	
Dec. 17	8 45 30		12 55 36		12 52 45		10 02 02		
	9 14 39	4 01	5 04 54 5	4 01.5	5 08 14	4 00.5	7 59 35	01	
Dec. 18	8 49 26		12 59 43		12 57 20		10 02 40		
	9 10 37.5	4 01.5	5 00 53	4 01.5	5 04 13.5	4 00.5	7 59 35	00	
Dec. 19	8 56 15		1 06 30		1 03 38		10 05 00		
	9 06 35.5	4 02	4 56 50.5	4 02.5	5 00 12.5	4 01	7 59 34.4	00.6	
Dec. 20	8 57 52		1 08 15		1 05 20		10 02 20		
	9 02 34.5	4 01	4 52 49.5	4 01	4 56 12	4 00.5	7 59 34	00.4	
Dec. 21	9 05 53		1 16 05		1 13 05		10 06 30		
	8 58 32	4 02.5	4 48 47	4 02.5	4 52 10.5	4 01.5	7 59 31.3	02.7	
Dec. 22	9 05 37		1 16 00		1 13 10		10 02 30		
	8 54 31	4 01	4 44 46.5	4 00.5	4 48 10	4 00.5	7 59 28.9	02.4	
Dec. 23	9 10 10		1 20 25		1 17 30		10 03 00		
	8 50 29.5	4 01.5	4 40 44.5	4 02	4 44 09.5	4 00.5	7 59 26.2	02.7	
Dec. 24	9 14 50		1 25 12		1 22 20		10 03 50		
	8 46 28.3	4 01.2	4 36 43	4 01.5	4 40 08.5	4 01	7 59 26	00.2	
Dec. 25	9 18 50		1 29 05		1 26 05		10 04 00		
	8 42 27	4 01.3	4 32 42	4 01	4 36 08	4 00.5	7 59 27.9	01.9	
Dec. 26	9 21 40		1 32 00		1 29 00		10 02 20		
	8 38 26	4 01	4 28 41	4 01	4 32 07	4 01	7 59 28.9	01	
Dec. 27	9 29 42		1 40 00		1 37 10		10 06 20		
	8 34 23.5	4 02.5	4 24 38.5	4 02.5	4 28 05.5	4 01.5	7 59 28.6	00.3	
Dec. 28	9 29 45		1 40 00		1 37 00		10 02 20		
	8 30 23	4 00.5	4 20 37.5	4 01	4 24 05.3	4 00.2	7 59 25.5	03.1	

Date.	Chron. A. D − A	Diff.	Chron. B. D − B	Diff.	Chron. E. D − E	Diff.	Chron. H. D − H	Diff.	Remarks.
1872.	h. m. s.	m. s.	h. m. s.	m. s.	h. m. s.	m. s.	h. m. s.	s.	
Dec. 29	9 34 25		1 44 40		1 41 35		10 02 52		
	8 26 21.5	4 01.5	4 16 36	4 01.5	4 20 04.5	4 00.8	7 59 27.6	02.1	
Dec. 30	9 38 00		1 48 12		1 45 15		10 02 30		
	8 22 19.5	4 02	4 12 34.8	4 01.2	4 16 04.5	4 00	7 59 30	02.4	
Dec. 31	9 41 42		1 54 03		1 49 10				
	8 18 19	4 00.5	4 08 33	4 01.8	4 12 04	4 00.5			
1873. Jan. 1	9 45 43		1 56 00		1 53 00		10 02 20		
	8 14 17	4 02	4 04 32	4 01	4 08 04	4 00	7 59 30		
Jan. 2	9 57 36		2 05 20		2 05 15		10 10 20		
	8 10 14.5	4 02.5	4 00 29	4 03	4 04 02	4 02	7 59 31.8	01.8	
Jan. 3	9 54 10.5		2 05 50		2 01 20.5		10 04 50		
	8 06 14.5	4 00	3 56 28	4 01	(?) 4 00 03.5	3 58.5	7 59 31.5	00.3	
Jan. 4	10 00 00		2 10 13		2 07 00		10 04 10		
	8 02 12.5	4 02	3 52 26.5	4 01.5	3 56 02.5	4 01	7 59 30.9	00.6	
Jan. 5	10 01 50		2 12 05		2 09 00		10 02 10		
	7 58 11.5	4 01	3 48 28	4 01.5	3 52 03	3 59.5	7 59 31.9	01.0	
Jan. 6	10 07 33		2 17 50		2 14 40		10 03 50		
	7 54 10.5	4 01	3 44 24	4 01	3 48 01.8	4 01.2	7 59 33.7	01.6	
Jan. 7	10 09 50		2 20 05		2 17 00		10 02 10		
	7 50 10	4 00.5	3 40 22.8	4 01.2	3 44 01.3	4 00.5	7 59 34.9	01.2	
Jan. 8	10 13 55		2 24 20		2 21 10		10 02 10		
	7 46 09.6	4 00.4	3 36 21.5	4 01.3	3 40 00.3	4 01	7 59 34.8	00.1	
Jan. 9	10 18 42		2 30 23		2 25 45		10 04 45		
	7 42 08	4 01.6	3 32 20	4 01.5	3 35 59	4 01.3	7 59 32	02.8	
Jan. 10	10 22 15		2 32 30		2 29 20		10 02 40		
	7 38 06.8	4 01.2	3 28 19.5	4 00.5	3 31 58	4 01	7 59 30.6	01.4	
Jan. 11	10 27 22		2 37 36		2 34 26		10 03 40		
	7 34 06	4 00.8	3 24 18.5	4 01	3 27 57	4 01	7 59 27.6	03	
Jan. 12	10 29 55		2 40 20		2 37 24		10 02 50		
	7 30 05	4 01	3 20 17.5	4 01	3 23 56.8	4 00.2	7 59 27.7	00.1	
Jan. 13	10 35 06		2 45 26		2 42 20		10 03 30		
	7 26 04.8	4 00.2	3 16 17	4 00.5	3 19 54.5	4 02.3	7 59 28.8	01.1	
Jan. 14	10 39 17		2 49 30		2 46 22		10 03 20		
	7 22 05	3 59.8	3 12 15	4 02	3 15 53.5	4 01	7 59 25.7	03.1	
Jan. 15	10 41 56		2 52 15		2 49 05		10 02 20		
	7 18 04	4 01	3 08 14.5	4 00.5	3 11 52.5	4 01	7 59 25	00.7	

Date.	Chron. A. D—A	Diff.	Chron. B. D—B	Diff.	Chron. E. D—E	Diff.	Chron. H. D—H	Diff.	Remarks.
1873.	h. m. s.	m. s.	h. m. s.	m. s.	h. m. s.	m. s.	h. m. s.	s.	
Jan. 16	10 46 00		2 56 15		2 53 03		10 02 10		
	7 14 03.5	4 00.5	3 04 13	4 01.5	3 07 50.5	4 02	7 59 28.8	00.8	
Jan. 17	10 51 02		3 01 20		2 58 05		10 03 10		
	7 10 02.5	4 01	3 00 12	4 01	3 03 50.5	4 00	7 59 25.9	00.1	
Jan. 18	10 54 47		3 05 07		3 02 16		10 03 40		
	7 06 02	4 00.5	2 56 11	4 01	2 59 49	4 01.5	7 59 23.5	02.4	
Jan. 19	10 58 10		3 08 30		3 05 16		10 02 20		
	7 02 01.5	4 00.5	2 52 10.5	4 00.5	2 55 48 3	4 00.7	7 59 21.1	02.4	
Jan. 20	11 02 00		3 12 15		3 09 02		10 02 00		
	6 58 01	4 00.5	2 48 09.5	4 01	2 51 47	4 01.3	7 59 23.3	02.2	
Jan. 21	11 06 02		3 16 16		3 13 06		10 02 10		
	6 54 00	4 01	2 44 08.5	4 01	2 47 46	4 01	7 59 23.8	00.5	
Jan. 22	11 10 17		3 20 35		3 17 35		10 02 40		
	6 49 59	4 01	2 40 07	4 01.5	2 43 44.5	4 01.5	7 59 21.8	02.0	
Jan. 23	11 14 06.4		3 26 25.5		3 21 34		10 04 40		
	6 45 58.6	4 00.4	2 36 05.5	4 01.5	2 39 43	4 01.5	7 59 20	01.8	
Jan. 24	11 18 35		3 29 00		3 25 50		10 03 30		
	6 41 57.5	4 01.1	2 32 04.5	4 01	2 35 41.7	4 01.3	7 59 19.1	00.9	
Jan. 25	11 21 03.5	(?)	3 34 28		3 29 31		10 06 02.2		
	6 39 06.5		2 28 03	4 01.5	2 31 41	4 00.7	7 59 15.8	03.3	
Jan. 26	11 26 17		3 36 37		3 33 26		10 02 30		
	6 33 55.5		2 24 02	4 01	2 27 40	4 01	7 59 13	02.8	
Jan. 27	11 38 47		3 46 05		3 42 50		10 07 50		
	6 29 54	4 01.5	2 20 00.5	4 01.5	2 23 38.5	4 01.5	7 59 12.9	00.1	
Jan. 28	11 35 25		3 45 43.5		3 42 42		10 03 50		
	6 25 53.5	4 00.5	2 15 59.9	4 00.6	2 19 38.5	4 00	7 59 09.6	03.3	
Jan. 29	11 39 05		3 49 47		3 46 37		10 04 00.4		
	6 21 52.6	4 00.9	2 11 59	4 00.9	2 15 37.8	4 00.7	7 59 06.5	03.1	
Jan. 30	11 43 03.5		3 55 04.5		3 50 17		10 05 39.4		
	6 17 51.5	4 01.1	2 07 57.5	4 01.5	2 11 37	4 00.8	7 59 05.6	00.9	
Jan. 31	11 46 10.5		3 59 12.5		3 53 29	(?)	10 05 20.2		
	6 13 50.5	4 01	2 03 56.5	4 01	2 08 36		7 59 01.8	03.8	
Feb. 1	11 50 15		4 00 32		3 57 15		10 02 30		
	6 09 49.5	4 01	1 59 56	4 00.5	2 03 35		7 59 00	01.8	
Feb. 2	11 54 12		4 04 45		4 01 30		10 02 40		
	6 05 48.5	4 01	1 55 54.6	4 01.4	1 59 33.9	4 01.1	7 59 00	00	

Date.	Chron. A. D — A	Diff.	Chron. B. D — B	Diff.	Chron. E. D — E	Diff.	Chron. H. D — H.	Diff.	Remarks.
1873.	*h. m. s.*	*m. s.*	*h. m. s.*	*m. s.*	*h. m. s.*	*m. s.*	*h. m. s.*	*s.*	
Feb. 3	12 00 00		4 10 20		4 07 10		10 04 20		
	6 01 46.8	4 01.7	1 51 53.5	4 01.1	1 55 32.8	4 01.1	7 58 56.8	03.2	
Feb. 4	12 02 15		4 12 50		4 09 40		10 03 30		
	5 57 45.5	4 01.3	1 47 52.6	4 00.9	1 51 32	4 00.8	7 58 58.1	01.3	
Feb. 5	12 06 45		4 17 00		4 13 47		10 02 52		
	5 53 45.5	4 00	1 43 51.4	4 01.2	1 47 31	4 01	7 58 55	03.1	
Feb. 6	12 14 37		4 25 00		4 22 00		10 07 06		
	5 49 44.4	4 01.1	1 39 49.6	4 01.8	1 43 30	4 01	7 58 58.1	03.1	
Feb. 7	12 15 02		4 25 25		4 22 10		10 03 30		
	5 45 44.5	3 59.9	1 35 48.8	4 00.8	1 39 30.6	3 59.4	7 58 54.5	03.6	
Feb. 8	12 18 17		4 28 40		4 25 25		10 02 40		
	5 41 43.5	4 01	1 31 47.7	4 01.1	1 35 30.5	4 00.1	7 58 52.6	01.9	
Feb. 9	12 22 18		4 32 40		4 29 20		10 02 30		
	5 37 42	4 01.5	1 27 47	4 00.7	1 31 30	4 00.5	7 58 53.6	01	
Feb. 10	12 26 36		4 38 07.6		4 33 35.5		10 08 34.8		
	5 33 41	4 01	1 23 45.4	4 01.6	1 27 29.5	4 00.5	7 58 53.2	00.4	
Feb. 11	12 30 28		4 43 50		4 37 33		10 06 03.2		
	5 29 40	4 01	1 19 44	4 01.4	1 23 29	4 00.5	7 58 51.8	01.4	
Feb. 12	12 34 25		4 44 50		4 41 36		10 03 20		
	5 25 39.5	4 00.5	1 15 43	4 01	1 19 27.8	4 01.2	7 58 51.1	00.7	
Feb. 13	12 38 25		4 48 50		4 45 32		10 02 50		
	5 21 38.5	4 01	1 11 42	4 01	1 15 27.5	4 00.3	7 58 52.6	01.5	
Feb. 14	12 42 23		4 53 00		4 49 45		10 03 00		
	5 17 37.5	4 01	1 07 40.8	4 01.2	1 11 26.5	4 01	7 58 52	00.6	
Feb. 15	12 46 26		4 56 51		4 53 30		10 02 40		
	5 13 36	4 01.5	1 03 39.6	4 01.2	1 07 26	4 00.5	7 58 48.8	03.2	
Feb. 16	12 52 22		5 04 30		5 01 17		10 06 40		
	5 09 34.6	4 01.4	0 59 37.5	4 02.1	1 03 25.6	4 00.4	7 58 47.8	01.0	
Feb. 17	12 54 26		5 04 46		5 01 20		10 02 40		
	5 05 34	4 00.6	0 55 36.6	4 00.9	0 59 25.8	3 59.8	7 58 46	01.8	
Feb. 18	12 58 32		5 09 30		5 06 13		10 03 30		
	5 01 32.8	4 01.2	0 51 35.5	4 01.1	0 55 25	4 00.8	7 58 47.2	01.2	
Feb. 19	1 02 33		5 13 05		5 09 40		10 02 54		
	4 57 31.5	4 01.3	0 47 34	4 01.5	0 51 25.4	3 59.6	7 58 48.8	01.6	
Feb. 20	1 06 29		5 17 05		5 13 36		10 02 52		
	4 53 31	4 00.5	0 43 33	4 01	0 47 25.8	3 59.6	7 58 46	02.8	

Date.	Chron. A. D — A	Diff.	Chron. B. D — B	Diff.	Chron. E. D — E	Diff.	Chron. H. D — H	Diff.	Remarks.
1873.	h. m. s.	m. s.	h. m. s.	m. s.	h. m. s.	m. s.	h. m. s.	s.	
Feb. 21	1 16 22		5 26 45		5 23 25		10 08 40		
	4 49 28.5	4 02.5	0 39 30.8	4 02.2	0 43 25	4 00.8	7 58 43.6	02.4	
Feb. 22	1 14 32		5 25 00		5 21 36		10 03 04		
	4 45 28	4 00.5	0 35 30.8	4 00	0 39 26.4	3 58.6	7 58 40.6	03.0	
Feb. 23	1 18 33		5 29 00		5 25 30		10 02 54		
	4 41 27	4 01	0 31 29.8	4 01	0 35 26.7	3 59.7	7 58 40.9	00.3	
Feb. 24	1 22 40		5 33 05		5 29 37		10 03 00		
	4 37 26	4 01	0 27 28.6	4 01.2	0 31 26.8	3 59.9	7 58 40	00.9	
Feb. 25	1 26 37		5 37 05		5 33 36		10 03 04		
	4 33 25	4 01	0 23 27.6	4 01	0 27 27	3 59.8	7 58 40.8	00.8	
Feb. 26	1 30 40		5 41 00		5 37 20		10 02 40		
	4 29 24.5	4 00.5	0 19 27	4 00.6	0 23 28	3 59	7 58 40.6	00.2	
Feb. 27	1 34 40		5 45 05		5 41 30		10 02 50		
	4 25 23.5	4 01	0 15 26	4 01	0 19 28.5	3 59.5	7 58 41	00.4	
Feb. 28	1 39 29.5		5 51 22		5 46 21		10 07 40		
	4 21 22.5	4 01	11 25	4 01	14 29	3 59.5	7 58 42	01.0	
Mar. 1	1 42 50		5 53 10		5 49 30		10 02 52		
	4 17 21	4 01.5	7 24	4 01	11 29.5	3 59.5	7 58 50.5	08.5	
Mar. 2	1 46 41		5 57 05		5 53 30		10 03 06		
	4 13 20	4 01	3 23.4	4 00.6	7 29.5	4 00	7 58 38	12.5	
Mar. 3	1 50 45		6 01 05		5 57 25		10 03 00		
	4 09 19	4 01	11 59 22.3	4 01.1	3 30	3 59.5	7 58 37.7	00.3	
Mar. 4	1 55 00		6 05 20		6 01 10		10 03 30		
	4 05 18	4 01	11 55 21.8	4 00.4	11 59 30	4 00	7 58 39.4	01.7	
Mar. 5	2 04 12		6 14 46		6 11 06		10 08 40		
	4 01 15.9	4 02.1	11 51 13.6	4 07.2	11 55 30	4 00	7 58 34.9	04.5	
Mar. 6	2 03 31.5		(?) 6 07 05.4		6 11 54		10 08 14.4		
	3 57 15.5	4 00.4	(?) 11 58 18.6		11 51 31	3 59	7 58 36.6	01.7	
Mar. 7	2 06 56		6 17 25		6 13 32		10 03 10		
	3 53 14	4 01.5	11 43 18		11 47 31.8	3 59.2	7 58 34.2	03.9	
Mar. 8	2 10 51		6 21 10		6 17 30		10 03 06.4		
	3 49 13	4 01	11 39 16.8	4 01.2	11 43 32	3 59.8	7 58 32.7	01.5	
Mar. 9	2 17 00.5	(?)	6 28 36.5		6 22 23.5	(?)	10 07 15.2		
	3 44 11.5		11 35 14.5	4 02.3	11 40 33.5		7 58 34.8	00.6	
Mar. 10	2 19 20		6 29 40		6 25 55		10 03 50		
	3 41 10		11 31 13.6	4 00.9	11 35 33		7 58 32.8	02.0	

Date.	Chron. A. D — A	Diff.	Chron. B. D — B	Diff.	Chron. E. D — E	Diff.	Chron. H. D — H	Diff.	Remarks.
1873.	*h. m. s.*	*m. s.*	*h. m. s.*	*m. s.*	*h. m. s.*	*m. s.*	*h. m. s.*	*s.*	
Mar. 11									No comparison.
Mar. 12	2 28 22		6 38 45		6 35 02		10 04 48		
	3 33 07		11 23 10.5		11 27 33.8		7 58 32		
Mar. 13	2 32 14		6 42 50		6 39 00		10 04 56		
	3 29 06.5	4 00.5	11 19 09.5	4 01	11 23 34.5	3 59.3	7 58 38	06	
Mar. 14	2 35 00		6 45 20		6 41 20		10 03 08		
	3 25 05	4 01.5	11 15 09	4 00.5	11 19 36	3 58.5	7 58 25.6	12.4	
Mar. 15	2 39 10		6 49 30		6 45 30		10 03 20		
	3 21 03	4 02	11 11 08.5	4 00.5	11 15 36.6	3 59.4	7 58 26.9	01.3	
Mar. 16	2 43 00		6 53 20		6 49 27		10 03 20		
	3 17 03	4 00	11 07 06.8	4 01.7	11 11 37.3	3 59.3	7 58 27.5	00.6	
Mar. 17	2 47 00		6 57 20		6 53 50		10 03 40		
	3 13 01	4 02	11 03 05.6	4 01.2	11 07 37.6	3 59.7	7 58 26.3	01.2	
Mar. 18	2 53 55		7 04 15		7 00 02		10 05 50		
	3 09 00	4 01	10 59 04	4 01.6	11 03 38	3 59.6	7 58 24.6	01.7	
Mar. 19	2 55 20		7 05 35		7 01 30		10 03 30		
	3 04 59	4 01	10 55 03.3	4 00.7	10 59 37.6	4 00.4	7 58 23	01.6	
Mar. 20	3 00 37		7 11 15		7 07 00		10 05 40		
	3 00 57.6	4 01.4	10 51 01.5	4 01.8	10 55 42	3 55.6	7 58 19	04	
Mar. 21	3 03 15		7 13 36		7 09 22		10 03 20		
	2 56 57	4 00.6	10 47 01.6	3 59.9	10 51 39	4 03	7 58 15.1	03.9	
Mar. 22	3 08 00		7 18 17		7 14 07		10 04 10		
	2 52 56	4 01	10 43 00	4 01.6	10 47 39.5	3 59.5	7 58 14.8	00.3	
Mar. 23	3 11 06.4		7 23 15		7 17 21		10 05 11.2		
	2 48 55.6	4 00.4	10 38 59	4 01	10 43 40	3 59.5	7 58 13.8	01	
Mar. 24	3 16 41		7 27 05		7 22 45		10 04 42		
	2 44 54	4 01.6	10 34 57.5	4 01.5	10 39 40	4 00	7 58 09	04.8	
Mar. 25	3 19 25		7 29 41		7 25 30		10 03 42		
	2 40 52	4 02	10 30 55.6	4 01.9	10 35 39.3	4 00.7	7 58 03.2	05.8	
Mar. 26	3 23 46		7 34 05		7 29 40		10 03 52		
	2 36 51	4 01	10 26 54	4 01.6	10 31 40	3 59.3	7 57 59	04.2	
Mar. 27	3 27 40		7 38 05		7 33 52		10 04 10		
	2 32 50	4 01	10 22 53	4 01	10 27 40.8	3 59.2	7 57 57.5	01.5	
Mar. 28	3 31 12		7 41 31		7 37 05		10 03 20		
	2 28 49	4 01	10 18 52	4 01	10 23 41.8	3 59	7 57 55.4	02.1	

Date.	Chron. A. D—A	Diff.	Chron. B. D—B	Diff.	Chron. E. D—E	Diff.	Chron. H. D—H	Diff.	Remarks.
1873.	h. m. s.	m. s.	h. m. s.	m. s.	h. m. s.	m. s.	h. m. s.	s.	
Mar. 29	3 41 55		7 52 20		7 48 00		10 10 20		
	2 24 47.8	4 01.2	10 14 50	4 02	10 19 42	3 59.8	7 57 53	02.4	
Mar. 30	3 39 15		7 49 40		7 49 10		10 03 30		
	2 20 48	3 59.8	10 10 51	3 59	10 15 44	3 58	7 57 51	02	
Mar. 31	3 44 30		7 54 51		7 50 20		10 04 52		
	2 16 47	4 01	10 06 49.6	4 01.4	10 11 44.4	3 59.6	7 57 37.8	13.2	
April 1	3 47 17		7 57 40		7 53 05		10 03 42		
	2 12 46.5	4 00.5	10 02 48.6	4 01	10 07 45.6	3 58.8	7 57 45	07.2	
April 2	3 51 19.5		8 01 46		7 57 20		10 04 00		
	2 08 45.5	4 01	9 58 47.5	4 01.1	10 03 46.3	3 59.3	7 57 43.8	01.2	
April 3	3 55 52		8 06 25		8 01 46		10 04 50		
	2 04 45	4 00.5	9 54 46	4 01.5	9 59 50	3 56.3	7 57 40	03.8	
April 4	3 59 25		8 09 45		8 05 05		10 03 50		
	2 00 43	4 02	9 50 45.6	4 00.4	9 55 48.6	4 01.4	7 57 35.4	04.6	
April 5	4 03 55		8 14 15		8 09 35		10 04 30		
	1 56 42.5	4 00.5	9 46 45	4 00.6	9 51 49.5	3 59.1	7 57 33	02.4	
April 6	4 07 20		8 17 45		8 13 02		10 04 00		
	1 52 41.6	4 00.9	9 42 44.8	4 00.2	9 47 51	3 58.5	7 57 28.9	04.1	
April 7	4 11 22		8 21 50		8 17 05		15 34 40		H ran down.
	1 48 40.5	4 01.1	9 38 44	4 00.8	9 43 52	3 59	2 27 49.5		
April 8	4 15 25		8 25 46		8 21 00		15 33 36		
	1 44 39.6	4 00.9	9 34 44	4 00	9 39 53.5	3 59.5	2 27 46.9	02.6	
April 9	4 19 22		8 29 40		8 24 55		15 33 40		
	1 40 39	4 00.6	9 30 42.5	4 01.5	9 35 54	3 59.5	2 27 32.8	13.1	
April 10	4 23 50		8 34 10		8 29 25		15 34 36		
	1 36 38	4 01	9 26 41.8	4 00.7	9 31 54.6	3 59.4	2 27 40.8	08	
April 11	4 28 48		8 40 17.5		8 34 22		15 36 34.8		
	1 32 37	4 01	9 22 40.5	4 01.3	9 27 55	3 59.6	2 27 38.2	02.6	
April 12	4 31 30		8 41 46		8 37 00		15 33 50		
	1 28 36	4 01	9 18 40	4 00.5	9 23 56	3 59	2 27 37.2	01	
April 13	4 56 52		9 08 24.5		9 04 07				H with Dr. Bessels.
	1 24 32	4 04	9 14 35.5	4 04.5	9 19 53	4 03			
April 14	1 41 05		8 51 40		8 47 40				H with Dr. Bessels.
	1 20 34	3 58	9 10 38	3 57.5	9 15 57	3 56			
April 15	4 45 16		8 55 45		8 51 23				H with Dr. Bessels.
	1 16 33	4 01	9 06 37	4 01	9 11 58	3 59			

Date.	Chron. A. D — A	Diff.	Chron. B. D — B	Diff.	Chron. E. D — E	Diff.	Chron. H. D — H	Diff.	Remarks.
1873.	h. m. s.	m. s.	h. m. s.	m. s.	h. m. s.	m. s.	h. m. s.	s.	
April 16	4 47 45		8 58 10		8 53 11				H with Dr. Bessels.
	1 12 31	4 02	9 02 36	4 01	9 07 59	3 59			
April 17	4 52 05		9 02 40		8 57 55				H with Dr. Bessels.
	1 08 32	3 59	8 58 35	4 01	9 04 00	3 59			
April 18	4 55 30		9 05 55		9 00 52				H with Dr. Bessels.
	1 04 30	4 02	8 54 34	4 01	9 00 00.5	3 59.5			
April 19	5 00 20		9 11 10.5		9 06 15		15 36 00		H returned.
	1 00 29.5	4 00.5	8 50 33	4 01	8 56 02.5	3 57	2 27 24.5		
April 20	5 13 42.5		9 24 19		9 19 28.5		15 44 50		
	0 56 27.5	4 02	8 46 32	4 01	8 52 01.5	4 01	2 27 24	00.5	
April 21	5 07 33		9 17 50		9 12 40		15 34 00		
	0 52 28	3 59.5	8 42 31.6	4 00.4	8 48 04.2	3 57.3	2 27 23	01	
April 22	5 22 10		9 32 45		9 27 40				H with Dr. Bessels.
	0 48 24.5	4 03.5	8 38 25.5	4 06.1	8 44 02	4 02.2			
April 23	5 15 40		9 26 00		9 20 50		15 34 00.4		H returned.
	0 44 26	3 58.5	8 34 29.8	3 55.7	8 40 05.2	3 56.8	2 27 21.8		
April 24	5 19 35		9 29 55		9 24 40		15 34 00		
	0 40 25.5	4 00.5	8 30 28.6	4 01.2	8 36 06.2	3 59	2 27 21.2	00.6	
April 25	5 24 40		9 35 01		9 28 45		15 35 02		
	0 36 24	4 01.5	8 26 27.8	4 00.8	8 32 06.8	3 59.4	2 27 18.6	02.6	
April 26	5 28 00		9 38 25		9 33 10		15 34 30		
	0 32 23.6	4 00.4	8 22 26.8	4 01	8 28 08	3 58.8	2 27 17.8	00.8	
April 27	5 32 17		9 42 45		9 37 35		15 35 00		
	0 28 23.5	4 00.1	8 18 26.5	4 00.3	8 24 09.5	3 58.5	2 27 20.8	03	
April 28	5 35 37		9 46 35		9 41 22		15 34 50		
	0 24 23	4 00.5	8 14 25.5	4 01	8 20 11	3 58.5	2 27 20	00.8	
April 29	5 39 45		9 50 15		9 45 00		15 34 20		
	0 20 23.5	3 59.5	8 10 25.8	3 59.7	8 16 12.8	3 58.2	2 27 19.8	00.2	
April 30	5 43 58		9 57 56		9 51 18		15 38 14.8		
	0 16 22	4 01.5	8 06 24	4 01.8	8 12 13	3 59.8	2 27 18.2	01.6	
May 1	5 47 40		9 58 00		9 52 30		15 34 00		
	0 12 21.5	4 00.5	8 02 23.8	4 00.2	8 08 15	3 58	2 27 15.2	03	
May 2	5 51 40		10 02 15.5		9 57 05		15 34 44		
	0 08 20.8	4 00.7	7 58 22.5	4 01.3	8 04 15.9	3 59.1	2 27 15.9	00.7	
May 3	5 55 40		10 06 05		10 00 40		15 34 10		
	0 04 20.5	4 00.3	7 54 22.7	3 59.8	8 00 17	3 58.9	2 27 14.6	01.3	

Date.	Chron. A. D—A	Diff.	Chron. B. D—B	Diff.	Chron. E. D—E	Diff.	Chron. H. D—H	Diff.	Remarks.
1873.	h. m. s.	m. s.	h. m. s.	m. s.	h. m. s.	m. s.	h. m. s.	s.	
May 4	5 59 45		10 10 45		10 05 15		15 34 50		
	0 00 20	4 00.5	7 50 21.6	4 01.1	7 56 18	3 59	2 27 12.8	01.8	
May 5	6 03 45		10 14 10		10 08 36		15 34 22		
	11 56 19	4 01	7 46 21.6	4 00	7 52 19	3 59	2 27 11.3	01.5	
May 6	6 07 42		10 18 15		10 12 50		15 34 30		
	11 52 18.9	4. 00.1	7 42 20.8	4 00.8	7 48 20	3 59	2 27 09.8	01.5	
May 7	6 11 43		10 22 05		10 16 25		15 34 06		
	11 48 18	4 00.9	7 38 19.8	4 01	7 44 21	3 59	2 27 08.6	01.2	
May 8	6 15 43		10 26 11		10 20 30		15 34 10.		
	11 44 17	4 01	7 34 19	4 00.8	7 40 21.8	3 59.2	2 27 07	01.6	
May 9	6 19 44		10 30 26		10 25 00		15 34 50		
	11 40 16.5	4 00.5	7 30 17.4	4 01.6	7 36 22.5	3 59.3	2 27 06	01	
May 10	6 24 05		10 34 25		10 28 40		15 34 40		
	11 36 16	4 00.5	7 26 17.5	3 59.9	7 32 23.5	3 59	2 27 04.8	01.2	
May 11	6 27 45		10 38 10		10 32 35		15 34 24		
	11 32 15.5	4 00.5	7 22 16.8	4 00.7	7 28 24.5	3 59	2 27 03	01.8	
May 12	6 31 46.5		10 43 34		10 36 20.6		15 35 35		
	11 28 14.5	4 01	7 18 16	4 00.8	7 24 25.4	3 59.1	2 27 03.5	00.5	
May 13	6 38 13		10 49 53		10 42 48				H with Mr. Bryan.
	11 24 13	4 01.5	7 14 15	4 01	7 20 26	3 59.4			
May 14	(39)? 6 40 47		10 51 29.6		10 44 09.8				H with Mr. Bryan.
	(20)? 11 19 14	3 59	7 10 15.4	3 59.6	7 16 28.2	3 57.8			
May 15	6 51 01		11 02 36.6		10 55 30				H with Mr. Bryan.
	11 16 12	4 02	7 06 13.4	4 02	7 12 28	4 00.2			
May 16	6 47 07.8	(?)	10 59 56.7		(52)? 10 57 40.6				H with Mr. Bryan.
	11 13 02.2	3 09.8	7 02 14.3	3 59.1	(08)? 7 03 29.4	3 58.6			
May 17	6 53 58.6	(?)	11 06 06.6		10 58 49.6		15 38 55.2		H returned.
	11 09 11.4	3 50.8	6 58 13.4	4 00.9	7 04 30.4	3 59	2 26 50.8		
May 18	6 57 06.9	(?)	11 08 40.5		11 01 35.6		15 37 05		
	11 04 11.1	5 00.3	6 54 13.5	3 59.9	7 00 31.4	3 59	2 26 49	01.8	
May 19	7 00 48		11 12 15.5		11 05 05.5		15 37 05.2		
	11 00 10	4 01.1	6 50 12.5	4 01	6 56 32.5	3 58.9	2 26 47.8	01.2	
May 20	7 04 52		11 15 30.5		11 09 40		15 36 20		
	10 56 09	4 01	6 46 10.1	4 02.4	6 52 28	4 04.5	2 26 45	02.8	
May 21	7 08 25		11 19 10		11 13 06		15 35 30		
	10 52 09.8	3 59.2	6 42 11	3 59.1	6 48 34.8	3 53.2	2 26 43.8	01.2	

Date.	Chron. A. D — A	Diff.	Chron. B. D — B	Diff.	Chron. E. D — E	Diff.	Chron. H. D — H	Diff.	Remarks.
1873.	h. m. s.	m. s.	h. m. s.	m. s.	h. m. s.	m. s.	h. m. s.	s.	
May 22	7 12 35		11 23 00		11 17 06		15 38 30		
	10 48 09	4 00.8	6 38 10.8	4 00.2	6 44 36	3 58.8	2 26 43	00.8	
May 23	7 16 55		11 27 20		11 21 20		15 36 00		
	10 44 08.6	4 00.4	6 34 10.8	4 00	6 40 36.8	3 59.2	2 26 41.8	01.2	
May 24	7 20 40		11 31 05		11 25 00		15 35 30		
	10 40 08.5	4 00.1	6 30 09.2	4 01.6	6 36 38	3 58.8	2 26 40.5	01.3	
May 25	7 24 21		11 35 15		11 29 51		15 36 30		
	10 36 08.5	4 00	6 26 09.5	3 59.7	6 32 39	3 59	2 26 42.5	02	
May 26	7 27 53		11 38 20		11 32 45		15 35 16		
	10 32 08.5	4 00	6 22 09.5	4 00	6 28 40	3 59	2 26 39.5	03	
May 27									No comparisons; Dr. Bessels and Mr. Bryan absent, H with the latter.
May 28	7 36 45.5		11 48 10.5		11 40 57				H returned.
	10 24 07.5		6 14 08.5		6 20 43				
May 29	7 40 00		11 50 20		11 44 03		5 16 20		H ran down.
	10 20 06.8	4 00.7	6 10 08	4 00.5	6 16 44.3	3 58.7	44 54.8		
May 30	7 43 54		11 54 15		11 48 00		5 16 30		
	10 16 06	4 00.8	6 06 06.8	4 01.2	6 12 46	3 58.3	44 52.8	02.0	
May 31	7 48 00		11 58 25		11 52 05		5 16 30		
	10 12 05	4 01	6 02 05.6	4 01.2	6 08 47.5	3 58.5	44 52	00.8	

ASTRONOMICAL OBSERVATIONS.

1 A O

ASTRONOMICAL OBSERVATIONS.

INTRODUCTORY.

Unfortunately, the greater and more valuable portion of the astronomical record was lost during the separation of the vessel from the ice-floe-party; though a very few sights for the determinations of positions on shore preceding the time of the disaster were recovered afterward from loose sheets of paper on which their computations had been made. The observations, mostly taken by Mr. Bryan, were very numerous, and positions were determined astronomically whenever practicable. The observations taken at winter-quarters alone consisted of about three hundred lunar distances, a number of moon-culminations, a great number of transits of stars, a number of occultations of stars, and a great number of altitudes of the sun on or near the prime vertical for longitude and time. For the determination of the latitude of the place, there were on record a great number of circum-meridian altitudes of the sun and a number of altitudes of stars.

The instruments used in the above-named observations were a Würdemann transit, the description of which we are unable to give; Gambey sextants, divided to 10″; and artificial mercury-horizons. The chronometers used have been referred to in a previous chapter.

As all the observations were made in high latitudes, where the celestial bodies hardly change their altitudes one-fifth of the amount they do here in the same interval of time, it might be considered sufficient, in making observations for latitude, to read the time to the nearest second, and to retain the nearest tenth of a minute in the computation. In regard to observations for time, the nearest half-second or one-hundredth of a minute would be sufficiently accurate, and, in reading off the arc of the sextant to the nearest tenth of a minute, a very satisfactory result would be obtained. Although the observations recorded hereafter were made in the usual way, we still deemed it proper to modify them according to the view expressed above, in order to simplify the process of their computation. The original observations, as recorded at the time they were made, are deposited in the archives of the Smithsonian Institution, and are accessible to any one that may wish to examine them in detail.

In making the reductions, Bessel's Tables of Refraction have been used, after having been modified and extended to adapt them to the conditions of the regions where the observations were made. The following table is modified accordingly for a mean atmospheric pressure of 29.5 inches, and a temperature of 0° Fahrenheit, having as argument the double altitude.

$2A+i$	$2r$	$2A$	$2r$	$2A$	$2r$	$2A$	$2r$
° ′	′	°	′	°	′	°	′
7 0	28.2	11	19.9	24	9.8	50	4.5
20	27.3	12	18.5	26	9.0	55	4.1
40	26.5	13	17.3	28	8.4	60	3.7
8 0	25.7	14	16.2	30	7.8	65	3.3
20	24.9	15	15.2	32	7.3	70	3.0
40	24.2	16	14.3	34	6.9	80	2.5
9 0	23.5	17	13.6	36	6.5	90	2.1
20	22.8	18	12.9	38	6.1	100	1.8
40	22.2	19	12.2	40	5.8	110	1.5
10 0	21.6	20	11.6	42	5.5	120	1.2
20	21.0	21	11.1	44	5.2	130	1.0
40	20.5	24	10.6	46	5.0	140	0.8

In using the above table, add 1% of the refraction for every 0.3 inch of the barometer above 29.5, and subtract 2% of the refraction for every 9° F. above 0° F., and *vice versa*.

In order to reduce the observations for latitude taken near the meridian to the meridian itself, the following two tables were used.

No. 1, giving for $2 \sin^2 \frac{1}{2} t^{(m)}$: arc 1^m :

t (m.)	′	t (m.)	′
$t=$ 1	0.0	$t=$21	14.4
2	0.1	22	15.8
3	0.3	23	17.3
4	0.5	24	18.8
5	0.8	25	20.4
6	1.2	26	22.1
7	1.6	27	23.8
8	2.1	28	25.6
9	2.7	29	27.5
10	3.3	30	29.4
11	4.0	31	31.4
12	4.7	32	33.5
13	5.5	33	35.6
14	6.4	34	37.8
15	7.4	35	40.0
16	8.4	36	42.4
17	9.5	37	44.7
18	10.6	38	47.1
19	11.8	39	49.7
20	13.1	40	52.3

Table No. 2 gives the factor $2f$ by inspection; the double altitude being used as vertical, and the latitude as horizontal argument.

Double altitude.	Latitude.				
$2A$	74°	76°	78°	80°	82°
°					
South, 10	0.54	0.48	0.41	0.35	0.28
20	.56	.49	.42	.35	.28
30	.57	.50	.43	.36	.29
40	.59	.51	.44	.36	.29
50	.60	.52	.45	.37	.29
60	.62	.54	.46	.38	.30
70	.64	.55	.47	.39	.30
80	.66	.57	.48	.39	.31
90	.68	.59	.49	.40	.31
North, 10	.52	.46	.40	.34	.27
20	.50	.45	.39	.33	.27
30	.49	.44	.38	.33	.27
40	.47	.43	.38	.32	.26
50	.46	.41	.37	.31	.26
60	0.44	0.40	0.36	0.31	0.25

Instead of the first table, the following practical rule may be used, viz: Divide t^2 by 30.6 for values up to 40^m, and t^2 by 31.6 for values at $1^h\ 40^m$.

As the observations taken at Polaris House cover a longer period of time, it was found convenient to use a special table by modifying the well-known factor—

$$2f = 2\,\varphi_c\,\delta_c : A_c \text{ into } 2\,\varphi_c - \left(1 - \frac{\delta_c}{A_c}\right) 2\,\varphi_c$$

assuming the latitude of the place to be 78°.4 N.

δ	S.	N.
°	%	%
− 5	+ 0.3	....
0	2.0	....
+ 5	4.1	....
10	6.3	....
15	8.5	−3.0
+20	+10.8	−4.9

According to the above table, the principal factor $2\,\varphi_c = 0.40_2$ has to be increased with culmination S., and decreased with culmination N., as indicated in percentages.

For the reduction of observations for latitude by Polaris, the following small table will be found useful.

For Polaris ± 0.048.		
ϕ	U.	L.
°	%	%
70	+6.9	−6.0
65	5.5	4.7
60	4.4	3.8
55	3.6	3.2
50	3.0	2.7
45	2.5	2.3
40	+2.0	−1.9

It is best to bring up chronometer t to apparent hour-angle before using table 1. For the influence of the daily rate of the chronometer, in case the above has not been done, the following figures can be used, which give the percentage by which the whole reduction to the meridian has to be increased or decreased as indicated.

1m	±0.1%
2	0.1
3	0.2
4	0.3
5	0.3

(+ when slow, — when fast.)

To facilitate the further reduction for ⊙'s semidiameter, hourly variation in declination, and parallax, we have finally added another small table, which runs thus:

⊙	2 s	100ᵐ 2Δ δ	(0)° 2 p	(28)° 2 p
	′	′	′	′
January	32.6	+ 1.6	0.3	0.3
February	32.4	+ 2.9	0.3	0.3
March	32.2	+ 3.3	0.3	0.3
April	31.9	+ 3.0	0.3	0.2
May	31.7	+ 1.9	0.3	0.2
June	31.6	+ 0.3	0.3	0.2
July	31.6	− 1.4	0.3	0.2
August	31.7	− 2.7	0.3	0.2
September ..	31.9	− 3.2	0.3	0.2
October	32.2	− 3.1	0.3	0.3
November ...	32.4	− 2.1	0.3	0.3
December ...	32.6	− 0.3	0.3	0.3

The parallax is given for the two altitudes 0° and 28°.

A.—OBSERVATIONS FOR LATITUDE.

In the reduction of the following observations, the apparent noon was first assumed, then t equal to the difference in time taken between the assumed apparent noon and the time of observation, opposite which the observed double altitudes are given. The columns next to that give the reductions to the meridian, and the correction for variation in declination; the number at the head of the column is the factor $2\ \varphi_c\ \delta_c : A_c$, by which $2 \sin^2 \frac{1}{2} t$: arc 1^m was multiplied in order to obtain the principal reduction. The last column gives the algebraic sum of the three preceding columns ($2\ A$), which is in our case the observed apparent double meridian altitude of the object under consideration. If the assumed chronometer-time of apparent noon was correct, the differences (△) will be within the limits of the probable error of the observation; if not so, the apparent noon must have occurred earlier or later, and will have to be re-assumed accordingly until the observations can be made to agree among themselves, when the mean of the different values ($2\ A$) will have to be corrected further for index-error ($i =$ off − on), for parallax ($2\ p$), for refraction ($2\ r$), (corrected for barometer and temperature), and for semidiameter ($2\ s$), in order to obtain the true observed double altitude of the object under consideration. Subtracting the corrected $2\ A$ from the double south-polar distance ($180 + 2\ \delta$), we obtain the double depression of the south pole below the horizon, or the double elevation of the north pole above the horizon, which is the double latitude of the place.

The following observations, the reductions of which were made by Mr. John Wiessner, are arranged chronologically as far as could be done. All those to which the observer's name is not affixed were made by Mr. Bryan.

I.—OBSERVATIONS TAKEN AT HALL'S LAND.

HALL'S LAND.

Observations for latitude of camp, October 19, 1871.

C. F. HALL, Observer.*

Jupiter on the meridian. h. m.	Off. m.	2 *Alt.* °	′	0.30 ′	2 *A* °	′
5 49	+ 41	57	15	+ 17	57	32
	55		3	+ 30		33
	68	56	47.5	+ 45		33
	80		30	+ 63		33

Watch slow 11 minutes.

2 *A*	57	33
i	—	15
2 *r*	—	4
2 *A*	57	14
180 + 2 δ	221	15
2 φ	164	1

$\phi = 82^\circ\ 0'.5$

HALL'S LAND.

Observations for latitude of eighth encampment, October 23, 1871.

C. F. HALL, Observer.

Jupiter on the meridian. h. m.	Off. m.	2 *Alt.* °	′	0.30 ′	2 *A* °	′	
5 35	+ 12	58	4	+ 1	58	5	+ 1
	22		5	+ 5		10	— 4
	34	57	56	+ 11		7	— 1
	42.5		46	+ 17		3	+ 3

Watch slow 20 minutes.

2 *A*	58	6
i	—	12
2 *r*	—	4
2 *A*	57	50
180 + 2 δ	221	8
2 φ	163	18

$\phi = 81^\circ\ 39'$

Observations for latitude, Polaris Bay Observatory, July 12, 1872.

EQUAL ALTITUDES OF THE SUN.†

Longitude, + 4h 8m.7 Greenwich; — 0h 59m.5 Washington.

	°	′	A. M. h.	m.	P. M. h.	m.		Middle. h.	m.					
⊙	54	30	23	41.47	5	55.83		2	48.65		φ	81°.6		
		40		44.37		52.88			48.63		δ	+ 21°.9		
											μ	— 21″.5		
2 *A*	54	35.0						2	48.64		*T*	6h 12m		
2 *p*	+	0.3					+ Equation of equal altitudes	+	0.66		λ *A*	9.455_n	λ *B*	9.292
i	—	0.2					— Equation of time	—	5.38		λ μ	1.332_n	λ μ	1.332_n
2 *r*	—	3.7					Chronometer fast	2	43.92		λ *t* φ	0.831	λ *t* δ	9.604
2 *s*	+	31.6					Refraction		0	4.1		——		——
2 *A*	55	3.0					Barometer 29i.6 29i.6	+	0.3			1.618		0.228_n
A	27	31.5					Temperature 45°.2 39°.4	—	9.4			+ 41s.5		— 1s.7
A_s		0.46213						—	9.1	— 0.4		+ 39s.8	=	+ 0m.66

* In this and the following set of observations, a pocket-sextant was used.

† The record of this observation was found by Mr. Bryan among his papers after the separation from the ice-floe-party had taken place. As the chronometer-comparison could not be recovered, it is doubtful whether chronometer G or H was used.

Latitude of Polaris Bay Observatory, from equal altitudes of preceding page.

$A_s = \phi_s \delta_s + \phi_c \delta_c \tau_c$

Assumed ϕ	81°	36′.5	$\lambda \phi_s$	9.99542		$\lambda \phi_c$	9.16418
δ	21°	53′.2	$\lambda \delta_s$	9.57144		$\lambda \delta_c$	9.96751
τ	3^h	$5^m.72$				$\lambda \tau_c$	9.93837
				9.56676			
				0.36877			8.97006
				0.09334			
			A_s	0.46211			

A_s 0.46211 which nearly agrees with A_s on preceding page.

Hence $\phi = 81° \ 36'.4$

II.—OBSERVATIONS TAKEN DURING THE DRIFT OF THE VESSEL THROUGH KENNEDY CHANNEL AND SMITH SOUND.

Observations for latitude, August 15, 1872.

Chronometer G fast $3^h \ 16^m.0$.

Longitude, $+ 4^h \ 32^m.3$ Greenwich; $- 35^m.9$ Washington.

Noon.	t	2 ☉	0.37	2 Δ δ		2 A	Δ
h. m.	*m.*	° ′	′	′		° ′	
3 20.0	− 24.8	46 55.0	+.7.2	− 0.6		47 1.6	− 1
	− 22.2	56.2	+ 5.8	− 0.6		1.4	+ 1
	− 19.4	57.5	+ 4.4	− 0.5		1.4	+ 1
					2 A	47 1.5	
					2 p	+ 0.3	
					i	+ 1.6	
Barometer, 30ⁱ.0					2 r	− 4.6	
Temperature, 36°.6					2 s	+ 31.7	
					2 A	47 30.5	
					180 + 2 δ	207 40.0	
					2 φ	160 9.5	

$\phi = 80° \ 4'.7$

Observations for latitude, August 18, 1872.

Chronometer H fast $8^h \ 46^m.6$.

Longitude, $+ 4^h \ 38^m.5$ Greenwich; $- 29^m.7$ Washington.

Midnight.	t	2 ☉	0.35	2 Δ δ		2 A	Δ
h. m.	*m.*	° ′	′	′		° ′	
20 50.0	− 31.1	6 2.8	− 11.1	− 0.5		5 51.2	− 0.4
	27.0	5 58.7	8.3	0.4		50.0	+ 0.8
	23.1	57.3	6.1	0.4		50.8	0.0
	19.6	55.5	4.4	0.3		50.8	0.0
	16.0	54.5	2.9	0.2		51.4	− 0.6
	12.3	52.7	−1.7	−0.2		50.8	0.0
					2 A	5 50.8	
Barometer, 29ⁱ.85					2 p	+ 0.3	
Temperature, 29°.6					i	− 0.4	
					2 r	− 28.0	
					2 s	− 31.7	
					2 A	4 51.0	
					180 − 2 δ	154 35.2	
					2 φ	159 26.2	

$\phi = 79° \ 43'.1$

Observations for latitude, August 20, 1872.

Chronometer F fast 18^{m}.5.

Longitude, + 4^{h} 38^{m} Greenwich; — 30^{m} Washington.

Noon.	t	$2 \odot$	0.383	$2 \Delta \delta$	$2 A$	Δ
h. m.	m.	° ′	′	′	° ′	
12 20.5	— 31.8	44 21.5	+ 12.6	— 0.9	44 33.2	+ 1
	29.1	23.9	10.6	0.8	33.7	— 4
	25.7	25.5	8.3	0.7	33.1	+ 2
	22.8	27.6	6.5	0.6	33.5	— 2
	20.7	28.8	5.4	0.6	33.6	— 3
	19.3	29.3	4.7	0.5	33.5	— 2
	17.6	30.0	3.9	0.5	33.4	— 1
	15.1	30.7	2.9	0.4	33.2	+ 1
	13.7	31.0	2.4	0.4	33.0	+ 3
	11.4	31.7	1.6	0.3	33.0	+ 3
	10.0	32.0	1.2	0.3	32.9	+ 4
	8.3	32.3	0.9	0.2	33.0	+ 3
	6.6	32.7	0.5	0.2	33.0	+ 3
	4.7	33.0	0.3	0.1	33.2	+ 1
	2.7	33.3	0.1	— 0.1	33.3	0
	— 0.7	33.7	0.0	0.0	33.7	— 4
	+ 2.9	33.5	0.1	+ 0.1	33.7	— 4
	+ 3.9	33.3	+ 0.2	+ 0.1	33.6	— 3

Index-correction: off, 32′.3; on, 31′.2

Refraction		8	5′.2
Barometer	30.25	+ 2	
Temperature	+ 36.5	— 8	
		— 6	— 0.3

$2 A$	44	33.3
i	+	0.5
$2 p$	+	0.3
$2 r$	—	4.9
$2 s$	+	31.7
$2 \odot$	45	0.9
$180 + 2 \delta$	204	25.5
2ϕ	159	24.6

$\phi = 79° 42'.3$

Observations for latitude, August 21, 1872.

Chronometer F fast 19^{m}.2.

Longitude, + 4^{h} 41^{m} Greenwich; — 0^{h} 27^{m} Washington.

Noon.	t	$2 \odot$	0.38	$2 \Delta \delta$	$2 A$	Δ
h. m.	m.	° ′	′	′	° ′	
12 22.0	— 7.7	43 59.1	+ 0.7	— 0.2	43 59.6	+ 5
	6.3	59.8	0.5	0.2	60.1	— 0
	4.4	60.0	0.2	0.1	60.1	— 0
	2.8	60.1	0.1	— 0.1	60.1	— 0
	— 0.9	60.2	0.0	0.0	60.2	— 1
	+ 0.6	60.2	0.0	0.0	60.2	— 1
	3.4	59.9	0.1	+ 0.1	60.1	+ 0
	+ 4.7	59.7	+ 0.3	+ 0.1	60.1	+ 0

$2 A$	43	60.1
i	+	0.6
$2 p$	+	0.3
$2 r$	—	4.8
$2 s$	+	31.7
$2 A$	44	27.9
$180 + 2 \delta$	203	45.5
2ϕ	159	17.6

Index-correction: off, 32′.3; on, 31′.1

Refraction		8	5′.2
Barometer	30.0	+ 2	
Temperature	+ 42.3	— 9	
		— 7	— 0.4

$\phi = 79° 38'.8$

Observations for latitude from August 25 to September 3, 1872.

	Aug. 25, 1872.		Aug. 26, 1872.		Aug. 29, 1872.		Aug. 30, 1872.		Sept. 3, 1872.	
	°	′	°	′	°	′	°	′	°	′
$2\overline{\odot}$	42	25.7	41	43.2	39	38.3	38	57.3	36	4.8
$2\underline{\odot}$	41	22.4	40	40.7	38	34.8	37	53.8	35	1.3
$2\odot$	41	54.0	41	12.0	39	6.6	38	25.5	35	33.1
i	+	0.2	+	0.2	+	0.6	—	1.2	—	1.2
$2p$	+	0.3	+	0.3	+	0.3	+	0.3	+	0.3
$2r$	—	5.2	—	5.3	—	5.7	—	5.7	—	6.2
$2\odot$	41	49.3	41	7.2	39	1.8	38	18.9	35	26.0
$180 + 2\delta$	201	9.6	200	19.7	198	10.3	197	29.2	194	34.1
2ϕ	159	20.3	159	12.5	159	8.5	159	10.3	159	8.1
ϕ	79	40.1	79	36.2	79	34.2	79	35.2	79	34.0

August 30, 1872—Barometer, 30.2; temperature, 36°.

Observations for latitude, September 6, 1872.

Chronometer H fast $8^h\ 41^m.0$.

Longitude, $+ 4^h\ 36^m$ Greenwich; $- 0^h\ 32^m$ Washington.

Noon.	t	$2\overline{\odot}$	0.38	$2\Delta\delta$	$2A$	Δ
h. m.	m.	° ′	′	′	° ′	
8 39.0	— 13.4	33 52.1	+ 2.2	— 0.4	33 53.9	— 1
	9.4	52.9	1.1	0.3	53.7	+ 1
	5.7	53.3	0.4	0.2	53.5	+ 3
	— 2.1	53.7	0.1	— 0.1	53.7	+ 1
	+ 0.9	53.8	0.0	0.0	53.8	0
	3.6	53.7	0.2	+ 0.1	54.0	— 2
	+ 6.5	53.3	+ 0.5	+ 0.2	54.0	— 2

Index-correction: off, 31′.3; on, 32′.3

		0 0
Barometer	29.85	+ 1
Temperatures	+ 23.6	— 5
		— 4
Refraction	6′.9	
Correction	— 0 .3	

$2A$	33	53.8
i	—	0.5
$2p$	+	0.3
$2r$	—	6.6
$2s$	—	31.8
$2A$	33	15.2
$180 + 2\delta$	192	20.2
2ϕ	159	5.0

t	$2\underline{\odot}$	0.38	$2\Delta\delta$	$2A$	Δ
m.	° ′	′	′	′	
— 11.2	32 49.8	+ 1.6	— 0.3	51.1	— 5
7.5	50.0	0.7	0.2	50.5	+ 1
— 3.5	50.5	0.1	— 0.1	50.5	+ 1
+ 2.3	50.5	0.1	+ 0.1	50.7	— 1
4.9	50.0	0.3	0.1	50.4	+ 2
+ 7.8	49.8	+ 0.8	+ 0.2	50.8	— 2

$2A$	32	50.6
i	—	0.5
$2p$	+	0.3
$2r$	—	6.9
$2s$	+	31.8
$2A$	33	15.3
$180 + 2\delta$	192	20.2
2ϕ	159	4.9

Refraction	7′.2
Correction	— 0.3

$\phi = 79° 35'.0$

Observations for latitude, September 7, 1872.

Chronometer H fast $8^h\ 41^m.8$.

Longitude, $+\ 4^h\ 36^m.5$ Greenwich; $-\ 0^h\ 31^m.7$ Washington.

Noon.	t	$2\odot$		0.38	$2\Delta\delta$	$2A$		Δ
h. m.	m.	°	′	′	′	°	′	
8 39.5	— 13.3	33	5.1	+ 2.2	— 0.4	33	6.9	+ 1
	10.6		6.3	1.4	0.3		7.4	— 4
	2.7		6.9	0.1	— 0.1		6.9	+ 1
	— 1.6		7.0	0.0	0.0		7.0	0
	+ 0.1		7.0	+ 0.0	0.0		7.0	0

		☿
Barometer	29.8	+ 1.0
Temperature	28.6	— 6.4
		— 5.4

$2A$	33	7.0
i	+	0.8
$2p$	+	0.3
$2r$	—	6.7
$2s$	—	31.8
$2A$	32	29.6
$180 + 2\delta$	191	35.1
2ϕ	159	5.5

t	$2\odot$		0.38	$2\Delta\delta$	$2A$		Δ
m.	°	′	′	′	°	′	
— 11.9	32	3.0	+ 1.7	— 0.4	32	4.3	0
— 4.3		4.3	0.2	— 0.1		4.4	— 1
+ 2.2		4.2	+ 0.1	0.0		4.3	0

$2A$	32	4.3
i	+	0.8
$2p$	+	0.3
$2r$	—	6.9
$2s$	+	31.8
$2A$	32	30.3
$180 + 2\delta$	191	35.1
2ϕ	159	4.8

$\phi = 79°\ 32'.6$

NOTE.—Sun obscured by clouds; no index-correction; assumed the mean of September 7 and 8.

Observations for latitude, September 8, 1872.

Chronometer H fast 8^h $42^m.6$.

Longitude, + 4^h 37^m Greenwich; — 0^h 31^m Washington.

Noon.	t	$2\,\overline{\odot}$	0.38	$2\,\Delta\,\delta$	$2\,A$	Δ
h. m.	m.	° ′	′	′	° ′	
8 40.0	— 11.2	32 24.8	+ 1.6	— 0.3	32 26.1	— 1
	8.0	25.4	0.8	0.2	26.0	0
	4.5	25.8	0.3	0.1	26.0	0
	— 2.1	26.0	0.1	— 0.1	26.0	0
	+ 0.0	25.8	0.0	+ 0.0	25.8	+ 2
	2.2	25.7	0.1	0.1	25.9	+ 1
	+ 4.5	25.6	+ 0.3	+ 0.1	26.0	0

Index-correction: off, 33′.9; on, 29′.7

			$\frac{0}{0}$
Barometer	29.87	+	1
Temperature	+ 32.3	—	7
		—	6
Refraction	7′.2		
Correction	— 0.4		

$2\,A$	32	26.0
i	+	2.1
$2\,p$	+	0.3
$2\,r$	—	6.8
$2\,s$	—	31.8
$2\,A$	31	49.8
$180 + 2\,\delta$	190	49.9
$2\,\phi$	159	0.1

t	$2\,\underline{\odot}$	0.38	$2\,\Delta\,\delta$	$2\,A$	Δ
m.	° ′	′	′	° ′	
— 9.5	31 22.0	+ 1.1	— 0.3	31 22.8	— 2
6.1	22.3	0.5	0.2	22.6	0
3.3	22.5	0.1	— 0.1	22.5	+ 1
— 0.8	22.5	0.0	0.0	22.5	+ 1
+ 1.1	22.4	0.0	+ 0.0	22.4	+ 2
3.5	22.3	0.2	0.1	22.6	0
+ 5.8	22.2	+ 0.4	+ 0.2	22.8	— 2

Refraction	7′.5
Correction	— 0.4

$2\,A$	31	22.6
i	+	2.1
$2\,p$	+	0.3
$2\,r$	—	7.1
$2\,s$	+	31.8
$2\,A$	31	49.7
$180 + 2\,\delta$	190	49.9
$2\,\phi$	159	0.2

$$\phi = 79^\circ\ 30'.1$$

Observations for latitude, September 11, 1872.

Chronometer H fast $8^h\ 42^m.7$.

Longitude, + $4^h\ 37^m.7$ Greenwich; — $0^h\ 30^m.5$ Washington.

Noon.	t	$2\odot$	0.38	$2\Delta\delta$	$2A$	Δ
h. m.	m.	° ′	′	′	° ′	
8 39 0	— 5.8	30 16.2	+ 0.4	— 0.2	30 16.4	+ 3
	— 3.4	16.8	0.1	0.1	16.8	— 1
	— 1.7	16.8	0.0	— 0.0	16.8	— 1
	+ 0.5	16.7	0.0	+ 0.0	16.7	0
	+ 2.3	16.6	+ 0.1	+ 0.1	16.8	— 1

Index-correction: off, 32′.8; on, 30′.8			$2A$	30 16.7
		″	i	+ 1.0
Barometer	29.84	+ 1	$2p$	+ 0.3
Temperature	+ 31.0	— 7	$2r$	— 7.2
		— 6	$2s$	— 31.9
			$2A$	29 38.9
Refraction	7′.7		$180 + 2\delta$	188 33.1
Correction	— 0.5		2ϕ	158 54.2

t	$2\underline{\odot}$	0.38	$2\Delta\delta$	$2A$	Δ
m.	° ′	′	′	°	
— 4.7	29 13.7	+ 0.3	— 0.1	29 13.9	— 1
— 2.5	13.8	0.1	— 0.1	13.8	0
— 0.4	14.0	0.0	0.0	14.0	— 2
+ 1.4	13.8	0.0	0.0	13.8	0
+ 3.2	13.5	+ 0.1	+ 0.1	13.7	+ 1

Refraction	8′.0	$2A$	29 13.8
Correction	— 0.5	i	+ 1.0
		$2p$	+ 0.3
Cloudy.		$2r$	— 7.5
		$2s$	+ 31.9
		$2A$	29 39.5
		$180 + 2\delta$	188 33.1
		2ϕ	158 53.6

$\phi = 79° \ 27'.0$

Observations for latitude, September 14, 1872.

Chronometer H fast $8^h\ 46^m.5$.

Longitude, + $4^h\ 41^m.5$ Greenwich; — $0^h\ 26^m.7$ Washington.

Noon.	t	$2\overline{\odot}$	0.38	$2\Delta\delta$	$2A$	Δ
h. m.	m.	° ′	′	′	° ′	
8 41.8	— 16.7	28 10.0	+ 3.5	— 0.5	28 13.0	— 2
	14.2	10.8	2.5	0.5	12.8	0
	11.1	11.3	1.7	0.4	12.6	+ 2
	8.4	11.8	0.9	0.3	12.4	+ 4
	5.9	12.7	0.4	0.2	12.9	— 1
	2.7	13.0	0.1	— 0.1	13.0	— 2
	— 0.2	12.8	0.0	0.0	12.8	+ 0
	+ 1.9	12.7	0.0	+ 0.1	12.8	0
	4.3	12.5	0.2	0.1	12.8	0
	+ 6.5	12.2	+ 0.5	+ 0.2	12.9	— 1

Index-correction: off, 30′.8; on, 33′.0

		°
Barometer	29.87	+ 1
Temperature	+ 26.3	— 6
		— 5

Refraction	8′.3
Correction	— 0.4

$2A$	28	12.8
i	—	1.1
$2p$	+	0.3
$2r$	—	7.9
$2s$	—	31.9
$2A$	27	32.2
$180 + 2\delta$	186	15.0
2ϕ	158	42.8

t	$2\underline{\odot}$	0.38	$2\Delta\delta$	$2A$	Δ
m.	°	′	′	° ′	
— 15.6	27 7.5	+ 3.0	— 0.5	27 10.0	+ 1
12.7	8.9	2.0	0.4	10.5	— 4
9.6	9.7	1.2	0.3	10.6	— 5
7.1	9.8	0.6	0.2	10.2	— 1
4.1	10.0	0.2	— 0.1	10.1	0
— 1.3	9.8	0.0	0.0	9.8	+ 3
+ 0.9	9.7	0.0	0.0	9.7	+ 4
3.3	9.7	0.1	+ 0.1	9.9	+ 2
5.4	9.5	0.4	0.2	10.1	0
+ 7.6	9.2	+ 0.7	+ 0.2	10.1	0

Refraction	8′.7
Correction	— 0.4

$2A$	27	10.1
i	—	1.1
$2p$	+	0.3
$2r$	—	8.3
$2s$	+	31.9
$2A$	27	32.9
$180 + 2\delta$	186	15.0
2ϕ	158	42.1

$\phi = 79° 21'.2$

Observations for latitude, September 17, 1872.

Chronometer H fast $8^h\ 44^m.8$.

Longitude, $+\ 4^h\ 42^m$ Greenwich; $-\ 0^h\ 26^m$ Washington.

Noon.	t	$2\ \overline{\odot}$	0.38	$2\ \Delta\ \delta$	$2\ A$	Δ
h. m.	m.	° ′	′	′	° ′	
8 39.0	− 10.7	25 54.6	+ 1.4	− 0.3	25 55.7	0
	7.6	55.2	0.7	0.2	55.7	0
	5.0	55.5	0.3	0.2	55.6	+ 1
	− 2.3	55.8	0.1	− 0.1	55.8	− 1
	+ 0.2	55.8	0.0	0.0	55.8	− 1
	3.7	55.2	0.2	+ 0.1	55.5	+ 2
	+ 6.4	55.0	+ 0.5	+ 0.2	55.7	0

Index-correction: off, 32′.3; on, 31′.3

		″		$2\ A$	25 55.7
				i	+ 0.5
Barometer	29.64	+ 0.5		$2\ p$	+ 0.3
Temperature	+ 26.2	− 5.8		$2\ r$	− 8.5
		− 5.3		$2\ s$	− 31.9
				$2\ A$	25 16.1
Refraction	9′.0			$180 + 2\ \delta$	183 55.9
Correction	− 0.5			$2\ \phi$	158 39.8

t	$2\ \odot$	0.38	$2\ \Delta\ \delta$	$2\ A$	Δ
m.	° ′	′	′	° ′	
− 9.4	24 52.2	+ 1.1	− 0.3	24 53.0	0
6.2	52.8	0.5	0.2	53.1	− 1
3.8	52.9	0.2	− 0.1	53.0	0
− 0.9	53.0	0.0	0.0	53.0	0
+ 1.6	52.8	0.0	+ 0.1	52.9	+ 1
5.3	52.5	0.3	0.2	53.0	0
+ 7.3	52.0	+ 0.7	+ 0.2	52.9	+ 1

Refraction	9′.5	$2\ A$	24 53.0
Correction	− 0.5	i	+ 0.5
		$2\ p$	+ 0.3
		$2\ r$	− 9.0
		$2\ s$	+ 31.9
		$2\ A$	25 16.7
		$180 + 2\ \delta$	183 55.9
		$2\ \phi$	158 39.2

$\phi = 79°\ 19'.7$

Cloudy.

Observations for latitude, September 19, 1872.

Chronometer H fast 8^h $44^m.0$.

Longitude, $4^h \cdot 42^m$ Greenwich; — 0^h 26^m Washington.

Noon.	t	$2\,\overline{\odot}$	0.38	$2\,\Delta\,\delta$	$2\,A$	Δ
h. m.	m.	° ′	′	′	° ′	
8 37.5	— 13.2	24 23.3	+ 2.2	— 0.4	24 25.1	+ 1
	10.8	24.1	1.5	0.3	25.3	— 1
	8.4	24.4	0.9	0.3	25.0	+ 2
	5.9	25.0	0.4	0.2	25.2	0
	4.2	25.0	0.2	0.1	25.1	+ 1
	2.7	25.3	0.1	— 0.1	25.3	— 1
	— 0.3	25.3	0.0	0.0	25.3	— 1
	+ 2.0	25.0	+ 0.1	+ 0.1	25.2	0

Index-correction: off, 32′.3; on, 31′.3			$2\,A$	24 25.2
		ϑ	i	+ 0.5
Barometer	30.00	+ 1.7	$2\,p$	+ 0.3
Temperature	+ 22.9	— 5.1	$2\,r$	— 9.3
		— 3.4	$2\,s$	— 31.9
			$2\,A$	23 44.8
Refraction	9′.6		$180 + 2\,\delta$	182 22.7
Correction	— 0.3		$2\,\phi$	158 37.9

t	$2\,\underline{\odot}$	0.38	$2\,\Delta\,\delta$	$2\,A$	Δ
m.	° ′	′	′	° ′	
— 11.9	23 20.8	+ 1.8	— 0.4	23 22.2	+ 1
9.5	21.3	1.1	0.3	22.1	+ 2
7.1	21.8	0.6	— 0.2	22.2	+ 1
— 1.2	22.2	0.0	0.0	22.2	+ 1
+ 0.8	22.3	0.0	0.0	22.3	0
3.3	22.2	0.1	+ 0.1	22.4	— 1
+ 5.2	22.0	+ 0.3	+ 0.2	22.5	— 2

Refraction	10′.1	$2\,A$	23 22.3
Correction	— 0.3	i	+ 0.5
		$2\,p$	+ 0.3
		$2\,r$	— 9.8
		$2\,s$	+ 31.9
		$2\,A$	23 45.2
		$180 + 2\,\delta$	182 22.7
		$2\,\phi$	158 37.5

$\phi = 79° \; 18'.8$

Observations for latitude, September 30, 1872.

Chronometer II fast $8^h\ 47^m.6$.

Longitude, $+\ 4^h\ 43^m$ Greenwich; $-\ 0^h\ 25^m$ Washington.

Noon.	t	2 ☉	0.38	2 △ δ	2 *A*	△
h. m.	m.	° ′	′	′	° ′	
10 37.4	− 9.8	16 29.2	+ 1.2	− 0.3	16 30.1	+ 1
	6.4	30.0	0.5	− 0.2	30.3	− 1
	− 0.2	30.0	0.0	0.0	30.0	+ 2
	+ 4.3	29.8	0.2	+ 0.1	30.1	+ 1
	+ 7.4	29.6	+ 0.7	+ 0.2	30.5	− 3

Index-correction: off, 30′.8; on, 33′.2

			°
Barometer	30.13	+ 2.1	
Temperature	+ 13.4	− 3.0	
		− 0.9	
Refraction	13′.9		
Correction	− 0.1		

2 *A*	16	30.2
i	−	1.2
$2p$	+	0.3
$2r$	−	13.8
$2s$	−	32.0
2 *A*	15	43.5
180 + 2 δ	173	48.3
2 φ	158	4.8

t	2 ☉	0.38	2 △ δ	2 *A*	△
m.	° ′	′	′	° ′	
− 8.2	15 27.7	+ 0.8	− 0.3	15 28.2	+ 4
− 5.0	28.5	0.3	− 0.2	28.6	0
+ 3.0	28.5	0.1	+ 0.1	28.7	− 1
+ 5.9	28.2	+ 0.4	+ 0.2	28.8	− 2

Refraction 14′.8

Correction − 0.1

Foggy.

2 *A*	15	28.6
i	−	1.2
$2p$	+	0.3
$2r$	−	14.7
$2s$	+	32.0
2 *A*	15	45.0
180 + 2 δ	173	48.3
2 φ	158	3.3

$\phi = 79° \ 2'.0$

Observations for latitude, October 1, 1872.

Chronometer H fast $8^h\ 48^m.5$.

Longitude, $+ 4^h\ 42^m$ Greenwich; $- 0^h\ 26^m$ Washington.

Noon.	t	$2\,\overline{\odot}$	0.38	$2\,\Delta\,\delta$	$2\,A$	Δ
h. m.	*m.*	° ′	′	′	° ′	
8 38.0	− 10.6	15 47.3	+ 1.4	− 0.3	15 48.4	0
	− 3.6	48.2	0.2	− 0.1	48.3	+ 1
	+ 0.3	48.4	0.0	0.0	48.4	0
	3.2	48.0	0.1	+ 0.1	48.2	+ 2
	5.8	47.8	0.4	0.2	48.4	0
	+ 8.3	47.5	+ 0.9	+ 0.3	48.7	− 3

Index-correction: off, 31′.7; on, 32.′3

		°
Barometer	30.16	+ 2.2
Temperature	+ 5.8	− 1.3
		+ 0.9

Refraction	14′.5
Correction	− 0 .1

	°	′
$2\,A$	15	48.4
i	−	0.3
$2\,p$	+	0.3
$2\,r$	−	14.4
$2\,s$	−	32.1
$2\,A$	15	1.9
$180 + 2\,\delta$	173	1.7
$2\,\phi$	157	59.8

t	$2\,\odot$	0.38	$2\,\Delta\,\delta$	$2\,A$	Δ
m.	° ′	′	′	° ′	
− 8.9	14 44.9	+ 1.0	− 0.3	14 45.6	− 2
5.1	45.3	0.3	0.2	45.4	0
− 2.1	45.7	0.1	− 0.1	45.7	− 3
+ 1.7	45.3	0.0	+ 0.1	45.4	0
4.5	44.7	0.3	0.2	45.2	+ 2
+ 7.2	44.3	+ 0.6	+ 0.2	45.1	+ 3

Refraction	15′.4
Correction	− 0 .1

Cloudy.

	°	′
$2\,A$	14	45.4
i	−	0.3
$2\,p$	+	0.3
$2\,r$	−	15.3
$2\,s$	+	32.1
$2\,A$	15	2.2
$180 + 2\,\delta$	173	1.7
$2\,\phi$	157	59.5

$\phi = 78°\ 59'.8$

Observations for latitude, October 2, 1872.

Chronometer H fast $8^h\ 46^m.8$.

(Add 15^m to the recorded times on account of mistake.)

Longitude, $+ 4^h\ 43^m.0$ Greenwich; $- 0^h\ 25^m.2$ Washington.

Meridian.	t	2 *Alt. α Andromedæ*	0.45	$2\,r$	$2\,A$	Δ
h. m.	*m.*	° ′	′	′	° ′	
20 0.0	− 1.1	78 51.0	+ 0.0	− 2.6	78 48.4	0
	+ 0.5	51.2	0.0	2.6	48.6	− 2
	+ 3.1	50.8	0.1	2.6	48.3	+ 1
	+ 5.1	50.7	+ 0.4	− 2.6	48.5	− 1

Index-error		0′.0
		°
Barometer	30.05	+ 1.8
Temperature	+ 1.3	− 0.3
		+ 1.5

	°	′
$2\,A$	78	48.4
$180 + 2\,\delta$	236	46.6
$2\,\phi$	157	58.2

$\phi = 78°\ 59'.1$

Observations for latitude, October 3, 1872.

Chronometer II fast $8^h\ 46^m.7$.

Longitude, + $4^h\ 43^m$ Greenwich ; — $0^h\ 25^m$ Washington.

Noon.	t	2 ☉	0.38	2 △ δ	2 A	△
h. m.	m.	° ′	′	′	° ′	
8 35.5	— 8.7	14 18.8	+ 0.9	— 0.3	14 19.4	— 1
	— 1.0	19.0	0.0	0.0	19.0	+ 3
	+ 1.8	19.2	0.0	+ 0.1	19.3	0
	+ 6.8	18.8	+ 0.6	+ 0.2	19.6	— 3

Index-correction: off, 32′.0; on, 32′.2

			″
Barometer		29.91	+ 1.4
Temperature	+	6.6	— 1.5
			— 0.1

Refraction 15′.9

Correction 0 .0

	°	′
2 A	14	19.3
i	—	0.1
2 p	+	0.3
2 r	—	15.9
2 s	—	32.1
2 A	13	31.4
180 + 2 δ	171	28.6
2 φ	157	57.2

t	2 ☉	0.38	2 △ δ	2 A	△
m.	° ′	′	′	° ′	
— 6.8	13 15.7	+ 0.6	— 0.2	13 16.1	+ 3
— 2.3	16.5	0.1	— 0.1	16.5	— 1
+ 0.5	16.8	0.0	0.0	16.8	— 4
3.3	16.0	0.1	+ 0.1	16.2	+ 2
5.6	15.6	0.4	0.2	16.2	+ 2
8.1	15.0	0.8	0.3	16.1	+ 3
+ 11.8	14.5	+ 1.7	+ 0.4	16.6	— 2

Refraction 17′.0

Correction 0 .0

Foggy.

	°	′
2 A	13	16.4
i	—	0.1
2 p	+	0.3
2 r	—	17.0
2 s	+	32.1
2 A	13	31.7
180 + 2 δ	171	28.6
2 φ	157	56.9

$\phi = 78°\ 58'.4$

Observations for latitude, October 6, 1872.

Chronometer H fast $8^h\ 45^m.6$.

Longitude, $+\ 4^h\ 45^m$ Greenwich ; $-\ 0^h\ 23^m$ Washington.

Noon.	t	$2\odot$		0.38	$2\Delta\delta$	$2A$		Δ
h. m.	m.	°	′	′	′	°	′	
8 33.5	− 9.0	12	4.1	+ 1.0	− 0.3	12	4.8	+ 1
	6.4		4.4	0.5	0.2		4.7	+ 2
	3.6		4.8	0.2	− 0.1		4.9	0
	− 1.0		5.0	0.0	0.0		5.0	− 1
	+ 1.3		5.0	0.0	0.0		5.0	− 1
	+ 3.7		4.8	+ 0.2	+ 0.1		5.1	− 2

Index-correction: off, 31′.8; on, 32′.5

		°
Barometer	29.68	+ 0.6
Temperature	+ 9.2	− 2.0
		− 1.4

Refraction 18′.4
Correction − 0 .3

$2A$	12	4.9
i	−	0.3
$2p$	+	0.3
$2r$	−	18.1
$2s$	−	32.1
$2A$	11	14.7
$180 + 2\delta$	169	9.8
2ϕ	157	55.1

t	$2\odot$		0.38	$2\Delta\delta$	$2A$		Δ
m.	°	′	′		°	′	
− 7.9	11	2.2	+ 0.8	− 0.3	11	2.7	+ 2
4.9		2.4	0.3	− 0.2		2.5	+ 4
− 2.2		3.0	0.1	− 0.1		3.0	− 1
+ 0.3		3.0	0.0	0.0		3.0	− 1
2.4		2.8	0.1	+ 0.1		3.0	− 1
+ 4.9		2.7	+ 0.3	+ 0.2		3.2	− 3

Refraction 19′.8
Correction − 0 .3

Misty.

$2A$	11	2.9
i	−	0.3
$2p$	+	0.3
$2r$	−	19.5
$2s$	+	32.1
$2A$	11	15.5
$180 + 2\delta$	169	9.8
2ϕ	157	54.3

$\phi = 78°\ 57'.3$

Observations for latitude, October 8, 1872.

Chronometer H fast $8^h\ 50^m.4$.

Longitude, $+\ 4^h\ 47^m$ Greenwich; $-\ 0^h\ 21^m$ Washington.

Noon.	t	$2\overline{\odot}$	0.39	$2\,\Delta\,\delta$	$2\,A$	Δ
h. m.	m.	° ′	′	′	° ′	
8 37.8	− 10.7	10 53.2	+ 1.5	− 0.3	10 54.4	+ 1
	9.5	53.7	1.2	0.3	54.6	− 1
	4.5	54.3	0.3	− 0.1	54.5	0
	− 1.3	54.4	0.0	0.0	54.4	+ 1
	+ 1.7	54.3	0.0	+ 0.1	54.4	+ 1
	4.5	54.3	0.2	0.2	54.7	− 2
	+ 7.0	53.8	+ 0.7	+ 0.2	54.7	− 2

Index-correction : off, 32′.2; on, 32′.1		
		0
Barometer	30.19	+ 2.3
Temperature	+ 2.4	− 0.5
		+ 1.8
Refraction	20′.1	
Correction	+ 0.4	

$2\,A$	10	54.5
i	+	0.0
$2\,p$	+	0.3
$2\,r$	−	20.5
$2\,s$	−	32.1
$2\,A$	10	2.2
$180 + 2\,\delta$	167	38.0
$2\,\phi$	157	35.8

t	$2\underline{\odot}$	0.39	$2\,\Delta\,\delta$	$2\,A$	Δ
m.	° ′	′	′	° ′	
− 9.2	9 52.3	+ 1.1	− 0.3	9 53.1	0
5.9	52.7	0.4	0.2	52.9	+ 2
− 2.9	53.3	0.1	− 0.1	53.3	− 2
+ 0.1	53.2	0.0	0.0	53.2	− 1
2.0	52.8	0.1	+ 0.1	53.0	+ 1
+ 5.9	52.5	+ 0.4	+ 0.2	53.1	0

Refraction	21′.8
Correction	+ 0.4

Misty.

$2\,A$	9	53.1
i	+	0.0
$2\,p$	+	0.3
$2\,r$	−	22.2
$2\,s$	+	32.1
$2\,A$	10	3.3
$180 + 2\,\delta$	167	38.0
$2\,\phi$	157	34.7

$$\phi = 78^\circ\ 47'.6$$

Observations for latitude, October 12, 1872.

Chronometer H fast $8^h\ 55^m.6$.

Longitude, + $4^h\ 53^m$ Greenwich; — $0^h\ 15^m$ Washington.

Noon.	t	2 $\overline{\odot}$	0.40	2 $\Delta\delta$	2 A	Δ	
h. m.	m.	° ′	′	′	° ′		
8 42.0	— 14.4	8 33.3	+ 2.7	— 0.5	8 35.5	+ 1	
	10.9	34.6	1.6	0.4	35.8	— 2	
	7.5	35.0	0.7	0.2	35.5	+ 1	
	4.0	35.7	0.2	0.1	35.8	— 2	
	— 0.6	35.5	0.0	— 0.0	35.5	+ 1	
	+ 2.7	35.8	0.1	+ 0.1	36.0	— 4	Rejected.
	6.3	35.3	0.5	0.2	36.0	— 4	Rejected.
	+ 8.8	33.7	+ 1.0	+ 0.3	35.0	+ 6	Rejected.

Index-correction: off, 32′.0; on, 32′.2

			δ
Barometer	30.1	+	2.0
Temperature	+ 3.5	—	0.8
		+	1.2

Refraction 24′.3
Correction + 0.3

	°	′
2 A	8	35.6
i	—	0.1
2 p	+	0.3
2 r	—	24.6
2 s	—	32.2
2 A	7	39.0
180 + 2 δ	164	36.3
2 ϕ	156	57.3

t	2 $\odot$	0.40	2 $\Delta\delta$	2 A	Δ	
m.	° ′	′	′	° ′		
— 11.7	7 33.3	+ 2.2	— 0.4	7 35.1	— 2	
9.3	33.0	1.1	0.3	33.0	+ 11	Rejected.
5.6	34.5	0.4	0.2	35.1	— 2	
— 2.4	34.8	0.1	— 0.1	34.8	+ 1	
+ 0.9	35.0	0.0	0.0	35.0	— 1	
4.5	34.3	0.3	+ 0.1	34.7	+ 2	
7.8	33.5	0.8	0.2	34.5	+ 4	
+ 10.9	33.1	+ 1.6	+ 0.3	35.0	— 1	

Refraction 26′.7
Correction + 0.3

	°	′
2 A	7	34.9
i	—	0.1
2 p	+	0.3
2 r	—	27.0
2 s	+	32.2
2 A	7	39.9
180 + 2 δ	164	36.3
2 ϕ	156	56.4

$\phi = 78° 28'.4$

III.—OBSERVATIONS FOR LATITUDE TAKEN AT POLARIS HOUSE.

Observations of circum meridian altitudes of the sun for latitude, March 18, 1873.

Chronometer II fast $7^h\,56^m.4$.

Longitude, $+\ 4^h\ 51^m.1$ Greenwich; $-\ 0^h\ 17^m.1$ Washington.

Index-correction: off, 33′ 20″; on, 31′ 30″

		°
Barometer	30.03	1.8
Temperature	− 32.9	7.3
		9.1
Refraction	10′.9	
Correction	1 .0	
$2r$	11 .9	

Hourly variation in declination 59″.3

δ − 0° 43′.35

Noon.	t	2 ⊙	0.41_0	$2\Delta\delta$	$2A$	Δ
h. m.	*m.*	° ′	′	′	′	
8 4.5	− 22.4	21 18.7	+ 6.7	+ 0.7	26.1	+ 9
	20.4	20.2	+ 5.6	+ 0.7	26.5	+ 5
	18.6	21.2	+ 4.6	+ 0.6	26.4	+ 6
	15.9	23.5	+ 3.4	+ 0.5	27.4	− 4
	13.5	24.5	+ 2.4	+ 0.4	27.3	− 3
	11.7	25.2	+ 1.8	+ 0.4	27.4	− 4
	10.1	25.5	+ 1.4	+ 0.3	27.2	− 2
	8.6	26.0	+ 1.0	+ 0.3	27.3	− 3
	7.2	26.5	+ 0.7	+ 0.2	27.4	− 4
	5.7	26.3	+ 0.4	+ 0.2	26.9	+ 1
	3.8	26.3	+ 0.2	+ 0.1	26.6	+ 4
	1.8	26.7	0.0	+ 0.1	26.8	+ 2
	− 0.3	26.8	0.0	0.0	26.8	+ 2
	+ 1.3	27.0	0.0	0.0	27.0	0
	2.9	27.3	+ 0.1	− 0.1	27.3	− 3
	4.8	27.2	+ 0.3	− 0.2	27.3	− 3
	6.4	26.8	+ 0.5	− 0.2	27.1	− 1
	+ 8.1	26.3	+ 0.9	− 0.3	26.9	+ 1

	°	′
$2A$	21	27.0
i	−	0.9
$2p$	+	0.3
$2r$	−	11.9
$2s$	+	32.2
True double altitude of ⊙	21	46.7
$180 + 2\delta$	178	33.3
2ϕ	156	46.6

$\phi = 78^\circ\ 23'.3$

Observations of altitudes of the sun near the meridian for latitude, April 22, 1873.

Watch slow $13^m.8$.

Approximate longitude, $+ 4^h 51^m.1$ Greenwich; $- 0^h 17^m.1$ Washington.

Noon.	t	$2\,\underline{\odot}$	0.43	$2\,\Delta\,\delta$	$2\,A$	Δ
h. m.	m.	° ′	′	′	° ′	
11 44.6	+ 9.8	47 29.5	+ 1.4	− 0.3	47 30.6	− 0
	13.6	28.3	+ 2.6	− 0.4	30.5	+ 1
	+ 16.4	27.3	+ 3.8	− 0.4	30.7	− 1

Index-correction: off, 33′.2; on, 30′.2

		°
Barometer	30.6	+ 3.7
Temperature	− 1.7	+ 0.3
	$\odot$	+ 4.0
Refraction	4′.8	
Correction	0.2	
Hourly variation		50″.2
δ	+ 12° 23′.0	

$2\,A$	47	30.6
i	+	1.5
$2\,p$	+	0.3
$2\,r$	−	5.0
$2\,s$	+	31.9
True double altitude of $\odot$	47	59.3
$180 + 2\,\delta$	204	45.9
$2\,\phi$	156	46.6

t	$2\,\overline{\odot}$	0.43	$2\,\Delta\,\delta$	$2\,A$	Δ
m.	° ′	′	′	° ′	
+ 11.8	48 32.0	+ 2.0	− 0.3	48 33.7	+ 2
15.1	31.5	+ 3.2	− 0.4	34.3	− 4
+ 17.7	29.7	+ 4.4	− 0.5	33.6	+ 3

Refraction	4′.6
Correction	+ 0.2

$2\,A$	48	33.9
i	+	1.5
$2\,p$	+	0.3
$2\,r$	−	4.8
$2\,s$	−	31.9
True double altitude of $\odot$	47	59.6
$180 + 2\,\delta$	204	45.9
$2\,\phi$	156	46.9

$\phi = 78^\circ\ 23'.4$

Meridian altitude of the sun, April 24, 1873.

Index-correction: off, 31′.2; on, 32′.5

		°
Barometer	30.17	+ 2.3
Temperature	+ 19.5	− 4.2
	″	− 1.9
		′
For 48°.9, 2 refraction	4′.6	− 0.1
49°.9, 2 refraction	4′.5	− 0.1

	°	′	i	$2\,p$	$2\,r$	$2\,s$	° ′
			′	′	′	′	
$2\,\underline{\odot}$	48	51.5	− 0.6	+ 0.3	− 4.5	+ 31.9 =	49 18.6
$2\,\overline{\odot}$	49	55.0	− 0.6	+ 0.3	− 4.4	− 31.9 =	49 18.4

True double altitude of $\odot$	49 18.5
$180 + 2\,\delta$	206 5.4
$2\,\phi$	156 46.9

$\phi = 78^\circ\ 23'.4$

Observations of circum-meridian altitudes of the sun for latitude, May 6, 1873.

Chronometer slow $10^h\ 33^m.8$.

Index-correction: off, 31′.8; on, 32′.0

		″
Barometer	30.09;	+ 2.0
Temperature	+ 8.8 ;	− 1.9
		+ 0.1

2 altitudes, ⊙ 57°.2 $2r =$ 3′.9

Hourly variation 41″.7

δ + 16° 41′

Noon. h. m.	t m.	2 ⊙ °	′	0.44 ′	2 Δ δ ′	2 A °	′	Δ
13 22.6	− 18.0	57	5.5	+ 4.6	+ 0.4	57	10.5	+ 7
	13.2		8.0	+ 2.5	+ 0.3		10.8	+ 4
	9.4		9.5	+ 1.3	+ 0.2		11.0	+ 2
	4.9		11.0	+ 0.3	+ 0.1		11.4	− 2
	− 1.6		11.0	+ 0.0	+ 0.0		11.0	+ 2
	+ 3.9		11.0	+ 0.2	− 0.1		11.1	+ 1
	8.4		10.3	+ 1.0	− 0.2		11.1	+ 1
	11.6		10.0	+ 1.9	− 0.3		11.6	− 4
	15.6		8.2	+ 3.5	− 0.4		11.3	− 1
	19.0		6.5	+ 5.2	− 0.4		11.3	− 1
	+ 21.8		5.3	+ 6.8	− 0.5		11.6	− 4

	°	′
$2A$	57	11.2
i	−	0.1
$2p$	+	0.3
$2r$	−	3.9
$2s$	−	31.8
True double altitude of ⊙	56	35.7
$180 + 2\delta$	213	23.0
2ϕ	156	47.3

$\phi = 78°\ 23'.7$

For 2 altitudes, 56°.1, $2r =$ 4′.0

t m.	2 ⊙ °	′	0.44 ′	2 Δ δ ′	2 A °	′	Δ
− 15.9	56	3.3	+ 3.6	+ 0.4	56	7.3	+ 5
11.6		5.0	+ 1.9	+ 0.3		7.2	+ 6
7.7		6.5	+ 0.9	+ 0.2		7.6	+ 2
3.6		7.5	+ 0.2	+ 0.1		7.8	0
+ 0.2		7.7	0.0	0.0		7.7	+ 1
6.1		7.5	+ 0.5	− 0.1		7.9	− 1
10.0		7.0	+ 1.4	− 0.2		8.2	− 4
13.9		5.8	+ 2.7	− 0.3		8.2	− 4
17.0		4.3	+ 4.2	− 0.4		8.1	− 3
+ 20.4		2.4	+ 6.0	− 0.5		7.9	− 1

	°	′
$2A$	56	7.8
i	−	0.1
$2p$	+	0.3
$2r$	−	4.0
$2s$	+	31.8
True double altitude of ⊙	56	35.8
$180 + 2\delta$	213	23.0
2ϕ	156	47.2

$\phi = 78°\ 23'.7$

Observations of circum-meridian altitudes of the sun for latitude, May 7, 1873.

Chronometer slow $10^h\ 33^m.8$.

Noon.	t	$2\odot$	0.44	$2\Delta\delta$	$2A$	Δ
h. m.	m.	° ′	′	′	° ′	
13 22.5	− 7.4	57 42.7	+ 0.8	+ 0.2	57 43.7	+ 4
	− 3.3	43.7	+ 0.2	+ 0.1	44.0	+ 1
	+ 0.1	44.0	0.0	0.0	44.0	+ 1
	4.1	44.2	+ 0.2	− 0.1	44.3	− 2
	7.9	43.8	+ 0.9	− 0.2	44.5	− 4
	+ 11.1	42.7	+ 1.8	− 0.3	44.2	− 1

Index-correction: off, 32′.0; on, 31′.5

			″
Barometer	30.35;	add	2.9
Temperature	+ 9.3;	sub.	2.1
		add	0.8

2 altitudes $\underline{\odot}$, 57°.7, 2 refraction 3′.9
Hourly variation 41″.0
δ 16° 58′.15

	°	′
$2A$	57	44.1
i	+	0.2
$2p$	+	0.3
$2r$	−	3.9
$2s$	−	31.8
True double altitude of $\odot$	57	8.9
$180 + 2\delta$	213	56.1
2ϕ	156	47.2

t	$2\odot$	0.44	$2\Delta\delta$	$2A$	Δ
m.	° ′	′	′	° ′	
− 5.7	56 39.7	+ 0.5	+ 0.1	56 40.3	+ 3
− 1.5	40.5	+ 0.0	+ 0.0	40.5	+ 1
+ 2.3	40.5	0.1	− 0.1	40.5	+ 1
6.0	40.5	+ 0.5	− 0.1	40.9	− 3
9.4	39.8	+ 1.3	− 0.2	40.9	− 3
+ 12.8	38.5	+ 2.4	− 0.3	40.6	0

For 56°.7, 2 refraction 4′.0

	°	′
$2A$	56	40.6
i	+	0.2
$2p$	+	0.3
$2r$	−	4.0
$2s$	+	31.8
True double altitude of $\odot$	57	8.9
$180 + 2\delta$	213	56.1
2ϕ	156	47.2

$\phi = 78°\ 23'.6$

Observations of circum-meridian altitudes of the sun for latitude, May 21, 1873.

Chronometer II slow $10^h\ 34^m.0$.

Midnight.	t	$2\odot$	0.38	$2\Delta\delta$	$2A$	Δ
h. m.	m.	° ′	′	′	° ′	
1 22.4	− 7.8	18 15.0	− 0.8	+ 0.1	18 14.3	+ 1
	5.9	14.7	0.5	+ 0.1	14.3	+ 1
	4.0	14.7	− 0.2	0.0	14.5	− 1
	− 1.9	14.8	0.0	0.0	14.8	− 4
	+ 0.1	14.8	0.0	0.0	14.8	− 4
	2.4	14.7	− 0.1	0.0	14.6	− 2
	3.1	13.8	0.1	0.0	13.7	+ 7
	4.0	14.8	0.2	0.0	14.6	− 2
	5.3	14.5	0.4	− 0.1	14.0	+ 4
	6.4	15.2	0.5	0.1	14.6	− 2
	7.2	15.2	0.6	0.1	14.5	− 1
	8.2	15.0	0.8	0.1	14.1	+ 3
	9.1	15.3	1.0	0.1	14.2	+ 2
	9.8	15.7	1.2	0.2	14.3	+ 1
	10.9	16.2	1.5	0.2	14.5	− 1
	11.6	16.4	1.7	0.2	14.5	− 1
	12.4	16.7	1.9	0.2	14.6	− 2
	13.3	17.0	2.2	0.2	14.6	− 2
	+ 14.3	17.4	− 2.5	− 0.2	14.7	− 3

Index-correction: off, 35′.2; on, 28′.2

Refraction for 18°.3				12′.7
Barometer	29.76	+ 1.0		
Temperature	+ 24.4	− 5.3		
		− 4.3		− 0.5

$2A$	18	14.4
i	+	3.5
$2p$	+	0.3
$2r$	−	12.2
$2s$	−	31.7
$2\odot$	17	34.3
$180 - 2\delta$	139	12.3
2ϕ	156	46.6

$\phi = 78°\ 23'.3$

Latitude of Polaris House.

RECAPITULATION.

1873.	$2\odot$ ° ′	Δ ′	$\overline{\odot}$ ′	Δ ′			
March 18, 2ϕ =	156 46.6	+ 0.3	(46.8)	+ 0.3	South side.		
April 22,	46.6	+ 0.3	46.9	+ 0.2	" "		
April 24,	46.8	+ 0.1	47.0	+ 0.1	" "		
May 6,	47.2	− 0.3	47.3	− 0.2	" "		
May 7,	47.2	− 0.3	47.2	− 0.1	" "		
Mean	46.9	± 0.2	47.1	± 0.2	South side.	47′.0	± 0′.1
$\odot - \underline{\odot}$		+ 0.2	± 0.3				
May 21,	(46.4)	± 0.4	46.6	± 0.3	North side.	46′.5	± 0′.3
						46′.8	± 0′.2

Final latitude 78° 23′.4 ± 0′.1

After having given the result of the observations for latitude at Polaris House, the following observations, taken at Port Foulke, near the observatory of Dr. I. I. Hayes, might find a place here.

In order to obtain the chronometric difference of longitude between the two localities named above, some observations were taken by Mr. Bryan near the Port Foulke observatory, on May 28. As it was supposed that the latitude determined by Hayes was correct, it was not deemed necessary to redetermine the same. But as we have some observations on record, they may be used for deducing the latitude, though they are taken about 2½ hours from the meridian.

PORT FOULKE

Observations of altitudes of the sun, May 28, 1873.

Chronometer H fast $3^h\ 7^m.3 - 0^m.1$.

Longitude, $+ 4^h\ 50^m.7$ Greenwich; $- 0^h\ 17^m.5$ Washington.

Noon.	t		$2A$	$i+2(p+r+s)$	$2A\odot$	sin A	Red.	sin M	Δ
h. m.	h. m.		° ′	′	° ′				
3 4.3 — 0.1	— 2 54.3	$\overline{\odot}$	60 2.5	— 34.8	59 27.7	0.49592	+ 5198	0.54790	+ 12
	52.4		12.3		37 5	49716	5092	808	— 6
	50.6		18.3		43.5	49791	4990	781	+ 21
	49.5		24.5		49.7	49870	4930	800	+ 2
	48.0		31.2		56.4	49955	4847	802	0
	43.3	$\underline{\odot}$	59 47.7	+ 28.6	60 16.3	50205	4590	795	+ 7
	42.3		52.6		21.2	50267	4538	805	— 3
	41.3		57.0		25.6	50322	4487	809	— 7
	40.3		60 0.7		29.3	50368	4430	798	+ 4
	39.3		5.5		34.1	50429	4377	806	— 4
	31.3		37.8		61 6.4	50834	3963	797	+ 5
	30.3		42.7		11.3	50895	3913	808	— 6
	29.3		46.3		14.9	50940	3866	806	— 4
	28.1		51.8		20.4	51009	3805	814	— 12
	— 27.2 + 0.1		55.3	+ 28.6	61 23.9	0.51053	3758	811	— 9
							Mean	0.54802	± 2

	′	′
$2p$	+ 0.2	+ 0.3
i	+ 0.1	+ 0.1
$2r$	— 3.5	— 3.4
$2s$	— 31.6	+ 31.6
	— 34.8	+ 28.6

		′
Barometer	29.95	+ 1.5
Temperature	31.8	— 7.1
		— 5.6

ϕ_c	0.2028	071
δ_c	0.9302	686
	0.1887	757

	° ′	
M	33 13 8	± 01
δ	21 32.2	
$90° - \phi$	11 41.7	
Latitude	78 18.3	

Refraction	3′.7	3′.6
Correction	— 0.2	— 0.2

In comparing our result, with that obtained by Hayes, a difference of 39″ will be found. For comparison's sake, the observations made by the Hayes expedition were again reduced according to the method adopted. They run as follows:

OBSERVATIONS FOR LATITUDE TAKEN AT PORT FOULKE.

Reflecting-circle, circum-meridian altitudes of the sun, September 9, 1860.

Longitude, + 4^h 52^m.0 Greenwich; — 0^h 16^m.2 Washington.

Noon.	t	2 ⊙	i	2 Δ δ	0.42	2 A	Δ
h. m.	*m.*	° ′	′	′	′	° ′	
0 47.6	— 5.1	33 5.6	+ 0.5	— 0.2	+ 0.4	33 (6.3)	Rejected.
	4.3	6.6	0.5	0.1	0.2	7.2	+ 2
	— 3.0	7.0	0.5	— 0.1	0.1	7.5	— 1
	+ 4.8	5.7	1.1	+ 0.2	0.3	7.3	+ 1
	5.5	5.8	1.1	0.2	0.4	7.5	— 1
	6.2	5.6	1.1	0.2	0.5	7.4	0
	9.8	4.7	1.1	0.3	1.3	7.4	0
	10.9	4.4	1.1	0.3	1.6	7.4	0
	+ 11.5	4.0	+ 1.1	+ 0.4	+ 1.8	7.3	+ 1

Barometer	29.7	+ 1″	2 A	33 7.4
Temperature	28°	— 6	2 p	+ 0.3
			2 r	— 6.7
Correction		— 5	2 s	+ 31.9
Refraction	7′.1			
	— 0 .4		2 A	33 32.9
			180 + 2 δ	190 8.2
	6 .7			
			2 φ	156 35.3

t	$\overline{\odot}$	i	2 Δ δ	0.42	2 A	Δ
m.	° ′	′	′	′	° ′	
— 2.0	34 10.3	+ 0.5	— 0.1	+ 0.1	34 10.8	+ 1
+ 0.1	10.7	0.5			11.2	— 3
0.9	10.1	0.5			10.6	+ 3
2.0	9.7	1.1	+ 0.1	0.1	11.0	— 1
2.8	9.6	1.1	0.1	0.1	10.9	0
3.8	9.6	1.1	0.1	0.2	11.0	— 1
7.7	8.7	1.1	0.3	0.8	10.9	0
8.4	8.6	1.1	0.3	0.9	10.9	0
+ 9.0	8.4	+ 1.1	+ 0.3	+ 1.1	10.9	0

Refraction	6′.9	2 A	34 10.9
Correction	— 0 .3	2 p	+ 0.3
		2 r	— 6.6
		2 s	— 31.9
		2 A	33 32.7
		180 + 2 δ	190 8.2
		2 φ	156 35.5

	° ′
Latitude of Port Foulke by Hayes	78 17.7
Latitude of Port Foulke by the United States Arctic Expedition	18.3
Mean	78 18.0

CAMP ON HAKLUYT ISLAND.

Observations for latitude, circum-meridian altitudes of the sun, June 7, 1873.

Chronometer H fast $3^h\ 7^m.8$.

Longitude, + $4^h\ 49^m.5$ Greenwich; − $0^h\ 18^m.7$ Washington.

Noon.	t		$2\bar{\odot}$	0.492	$2\Delta\delta$	$2A$	Δ			
h. m.	m.		° ′	′	′	° ′	′			
3 7.0 / −0.6	− 45.7	+ 0.6	70 45.3	+ 32.7 / − 0.1	+ 0.4	70 78.3	− 0.1		822	66.4
	40.5	0.6	52.3	+ 25.6	+ 0.3	78.2	− 0		716	52.0
	36.7	0.6	56.8	+ 21.0	+ 0.3	78.1	+ 1		629	42.6
	33.3	0.6	60.8	+ 17.2	+ 0.3	78.3	− 1		543	34.9
	29.5	0.6	65.0	+ 13.4	+ 0.2	78.6	− 4		436	27.3
	25.6	0.6	67.6	+ 10.6 / − 0.6	+ 0.2	78.4 / − 0.6	+ 4			
	22.1	0.6	70.7	+ 7.9 / − 0.5	+ 0.2	78.8 / − 0.5	− 1			
	18.8	0.6	73.0	+ 5.7 / − 0.3	+ 0.2	78.9 / − 0.3	− 4			
	14.8	0.6	75.0	+ 3.5 / − 0.3	+ 0.1	78.6 / − 0.1	− 1			
	8.9	0.6	77.2	+ 1.3 / − 0.2	+ 0.1	78.6 / − 0.2	− 2		$\Delta\delta$ + 14″.0	
	4.7	0.6	77.9	+ 0.3		78.2	0			
	− 1.1	0.6	78.2	0.0		78.2	0			
	+ 2.9	0.6	77.8	+ 0.1		77.9	+ 3			
	7.1	0.6	77.0	+ 0.8 / + 0.2	− 0.1	77.7 / + 0.2	+ 3			
	10.3	0.6	76.3	+ 1.7 / + 0.2	− 0.1	77.9 / + 0.2	+ 1			
	13.2	0.6	75.1	+ 2.8 / + 0.3	− 0.1	77.8 / + 0.3	+ 1			
	17.0	0.6	73.7	+ 5.2 / + 0.4	− 0.1	78.2 / + 0.4	− 4			
	20.2	0.6	71.7	+ 6.6 / + 0.4	− 0.2	78.1 / + 0.4	− 3			
	24.1	0.6	68.5	+ 9.3 / + 0.5	− 0.2	77.6 / + 0.5	+ 1			
	28.7	0.6	64.5	+ 13.8	− 0.2	78.1	+ 1		448	28.1
	35.4	0.6	57.2	+ 20.9	− 0.3	77.8	+ 4		627	42.4
	38.9	0.6	53.8	+ 25.0	− 0.3	78.5	− 3		707	50.9
	42.5	0.6	48.8	+ 29.9	− 0.4	78.3	− 1		783	60.7
	+ 45.8	+ 0.6	45.0	+ 34.6 / − 0.1	− 0.4	79.1	− 9	Rejected.	847	70.3

Index-correction: off, 31′.0; on, 31′.2			$2A$	70 78.2
			i	− 0.1
Refraction		2′.9	$2p$	+ 0.2
			$2r$	− 2.8
Barometer	29.8 + 10		$2s$	− 31.6
Temperature	+ 29.0 − 6			
			$2\odot$	70 43.9
	− 5	− 0.1	$180 + 2\delta$	225 37.8
			2ϕ	154 53.9

$\phi = 77° \ 27'.0$

CAMP ON NORTHUMBERLAND ISLAND.

Chronometer H fast $3^h\ 3^m.4$.

Observations for latitude, circum-meridian altitudes of the sun, June 10, 1873.

Longitude, + $4^h\ 47^m$ Greenwich; — $0^h\ 21^m$ Washington.

Noon.	t	2 ⊙		0.497		$2\Delta\delta$	2 A			Δ
h. m.	*m.*	°	′		′	′	°	′		
3 4.0 + 0.3	— 34.3 — 0.3	71	42.6	+	19.4	+ 0.2	71	62.2	+	7
	— 30.4 — 0.3		47.3		15.3	0.2		62.8	+	1
	— 27.1 — 0.3		50.5		12.2	0.2		62.9		0
	— 23.4 — 0.3		53.7		9.1	0.1		62.9		0
	— 20.3 — 0.3		56.3		6.9	0.1		63.3	—	4
	— 17.0 — 0.3		58.5		4.9	0.1		63.5	—	6
	— 13.9 — 0.3		59.6		3.3	0.1		63.0	—	1
	— 10.4 — 0.3		60.3		1.9	+ 0.1		62.3	+	6
	— 6.8 — 0.3		62.5		0.8			63.3	—	4
	— 3.8 — 0.3		62.5		0.2			62.7	+	2
	— 1.1 — 0.3		62.5		0.0			62.5	+	4
	+ 2.0 — 0.3		63.0		0.1			63.1	—	2
	+ 3.4 — 0.3		62.6		0.2			62.8	+	1
	+ 6.6 — 0.3		62.4		0.6			63.0	—	1
	+ 9.7 — 0.3		61.8	+	1.5	— 0.1		63.1	—	2

Index-correction: off, 31′.2; on, 31′.0

		8
Barometer	29.7	+ 1
Temperature	+ 34.5	— 8
		— 7
Refraction	2′.9	
Correction	— 0 .2	

2 A	71	62.9
i	+	0.1
2 p	+	0.2
2 r	—	2.7
2 s	—	31.6
2 ⊙	71	28.9
180 + 2 δ	226	7.7
2 ϕ	154	38.8

$\phi = 77°\ 19'.4$

NORTHUMBERLAND ISLAND.

Observations for latitude, circum-meridian altitudes of the sun, June 10, 1873.

Chronometer H fast $3^h\ 3^m.4$.

Longitude, $+\ 4^h\ 47^m.0$ Greenwich; $-\ 0^h\ 21^m.2$ Washington.

Noon.	t	$2\odot$	0.497	$2\Delta\delta$	$2A$	Δ
h. m.	m.	° ′	′	′	° ′	
3 4.3	− 32.7	70 42.4	+ 17.3	+ 0.2	70 59.9	+ 2
	28.9	45.8	13.6	0.2	59.6	+ 5
	25.7	49.0	10.7	0.2	59.9	+ 2
	22.2	51.8	8.0	0.1	59.9	+ 2
	18.9	54.2	5.8	0.1	60.1	0
	15.7	56.4	4.0	0.1	60.5	− 4
	12.6	57.5	2.6	0.1	60.2	− 1
	9.0	58.3	1.3	+ 0.1	59.7	+ 4
	5.3	59.7	0.5		60.2	− 1
	2.5	60.0	0.1		60.1	0
	− 0.1	59.8	0.0		59.8	+ 3
	+ 5.1	59.7	0.4		60.1	0
	8.3	59.1	1.1	− 0.1	60.1	0
	10.6	58.8	1.8	0.1	60.5	− 4
	+ 12.1	58.0	+ 2.4	− 0.1	60.3	− 2

Index-correction: off, 31′.5; on, 31′.0

Refraction 3′.0

Correction − 0.2

$2A$	70	60.1
i	+	0.3
$2p$	+	0.2
$2r$	−	2.8
$2s$	+	31.6
$2\odot$	71	29.4
$1\ 0 + 2\delta$	226	7.7
2ϕ	154	38.3

$\phi = 77°\ 19'.2$

CAMP ON CONICAL ROCK.

Observations for latitude, circum-meridian altitudes of the sun, June 18, 1873.

Chronometer H fast $2^h\ 49^m.1$.

Longitude, $+ 4^h\ 3$[illegible]$^m.8$ Greenwich; $- 0^h\ 34^m.4$ Washington.

Midnight.	t	2 ⊙	0.45	2 A	Δ
h. m.	m.	° ′		° ′	
14 50.0	− 10.5	19 41.0	1.6	19 39.4	+ 2
	6.7	40.0	0.7	39.3	+ 3
	3.4	40.0	0.2	39.8	− 2
	− 0.3	39.5	0.0	39.5	+ 1
	+ 2.7	39.6	0.1	39.5	+ 1
	5.8	40.3	0.5	39.8	− 2
	9.0	40.8	1.2	39.6	0
	+ 12.0	41.7	− 2.1	39.6	0

Index-correction: off, 31′.5; on, 31′.3				2 A	19 39.6
				i	+ 0.1
Refraction		$^0_0$	11′.8	2 p	+ 0.3
Barometer	30.18	+ 2		2 r	− 11.3
Temperature	+ 27.5	− 6		2 s	− 31.6
		− 4	− 0.5	2 ⊙	18 57.1
				180 − 2 δ	133 7.6
				2 δ	152 4.7

Midnight.	t	2 ⊙	0.45	2 A	Δ
h. m.	m.	° ′	′	° ′	
14 50.0	− 8.5	18 38.3	− 1.1	18 37.2	0
	4.8	37.5	0.3	37.2	0
	− 1.8	37.3	0.0	37.3	− 1
	+ 1.0	37.2	0.0	37.2	0
	4.3	37.5	0.3	37.2	0
	7.3	37.8	0.8	37.0	+ 2
	10.5	39.0	1.6	37.4	− 2
	+ 13.8	40.0	− 2.8	37.2	0

Index-correction: off, 31′.5; on, 31′.3		2 A	18 37.2
		i	+ 0.1
Refraction	12′.5	2 p	+ 0.3
6$^0_0$ off	− 0.8	2 r	− 11.9
		2 s	+ 31.6
		2 ⊙	18 57.7
		180 − 2 δ	133 7.6
		2 φ	152 4.9

$\phi = 76°\ 2'.4$

As the following observations, taken at Newman's Bay by Mr. Chester, are, besides those taken by the late Captain Hall during his sledge-journey, the only ones on record taken north of Polaris Bay, we propose giving them at this place, though they were not only made use of to obtain the latitude, but also to deduce the time. We find the latitude to be 81° 55′ 54″ N., and the longitude, as worked from Polaris House, + 4h 5m 24s Greenwich. (Compare the observations for time made there and given hereafter.) Assuming the longitude of Polaris Bay observatory to be + 4h 7m 6s, we might have obtained the longitude of the camp at Newman's Bay by carrying the chronometer forward; but unfortunately the time-piece (box-chronometer D) stopped for some thirty minutes, resulting from a collision of the boat in which it was placed with a heavy ice-field, which sunk the boat, nearly destroying its crew.

CAMP AT NEWMAN'S BAY.

Observations for latitude and time, June 17, 1872.

	Chron. D.	2 ☉	$i+2(p+r+s)$	2 A	A_s	$A_s - \phi_s\,\delta_s$	λ	$\lambda\,\tau_c$	τ	Chron. fast.	Δ
	h. m.	° ′	′	° ′					h. m.	h. m.	m.
A. M.	12 3.02	56 23.0	+ 28.4	23 25.7	0.47606—40	0.03266	8.91730	9.80712	— 3 20.42	3 22.8	—0.4
	10.83	56 49.0	28.4	38.7	47938 41	08597	93435	82417	12.64	22.8	—0.4
	16.52	57 9.0	28.5	48.8	48196 41	08855	94719	83701	6.40	22.3	+0.1
	21.92	57 27.2	28.5	57.9	48427 41	09086	95837	84819	0.68	21.9	+0.5
							Equation of time +		0.66		
	51.83	58 51.5	28.5	29 40.0	49495 41	10154	9.00664	89646	— 2 32.07	23.2	—0.8
	59.03	59 13.0	28.5	50.7	49765 42	10423	01799	90781	24.11	22.5	—0.1
	1 4.93	59 26.3	28.5	57.4	49934 42	10592	02498	91480	18.91	23.2	—0.8
	12.60	59 45.5	28.6	30 7.0	50176 42	10831	03467	92449	11.27	23.2	—0.8
	29.17	60 23.0	28.6	25.8	50649 42	11307	05335	94317	1 54.71	23.2	—0.8
	35.77	60 39.5	28.7	34.1	50857 42	11515	06127	95109	46.74	21.8	+0.6
	44.62	60 55.0	28.7	41.8	51049 43	11706	06841	95823	38.91	22.8	—0.4
	56.17	61 17.0	28.7	52.8	51324 43	11981	07850	96832	26.48	22.0	+0.4
	2 4.08	61 28.2	28.7	58.5	51467 43	12124	08364	97346	19.31	22.7	—0.3
	13.95	61 41.5	+ 28.7	31 5.1	51631—43	12288	08948	97930	10.20	23.5	—0.1
							Equation of time +		0.68		
P. M.	8 51.88	48 5.0	+ 27.7	24 16.3	41106—53	0.01753	8.24378	13362	+ 5 28.73	3 22.43	
	55.58 *a*	47 53.0	27.6	10.3	40947 53	01594	20249	09233	31.58		
	58.67	47 36.5	27.6	2.0	40727 53	01374	13799	02783	35.52	22.45	
	9 1.43	47 25.0	27.6	23 56.3	40575 53	01222	08707	8.97591	38.29	22.40	
	4.08 *b*	47 12.0	27.5	49.7	40400 53	01047	01995	90979	41.36		
	7.68	46 59.0	+ 27.5	43.2	40226—53	00873	7.94101	82985	44.49	22.45	
				Constant 0.393 ..			$9.1101\frac{8}{0}$	Equation +	0.74		

	′ ″
i	15
$2\,p$	16
$2\,s$	31 33
	32 4

For assumed $\phi = 55'.6$; residual $-0^m.3$
$55'.7$; residual $-0^m.2$
Hence $\phi = 55'.9$; residual $0^m.0$

Result: Chronometer D fast.

June 17, $5^h.5$ p. m., 3h 22m.43 on local time;
and slow 43.0 on Greenwich time.

Boat camp, longitude 4 5.4

Polaris Bay observatory (adopted) 7.1

Barometer 29.90; correction + 1.3
Temperature 35.0; — 7.8

Refraction	4.0	3.6	4.7	4.9
Correction	— 0.3	— 0.2	— 0.3	— 0.3
	— 3.7	— 3.4	— 4.4	— 4.6

Observations from 9h to 11h a. m., and $5^h.5$ p. m.; $\Delta\,\delta = 3.6$; assumed longitude, 1h 0m east of Wash.
☉ δ 23° 24′.8 and 25′.2.

Assumed latitude: $\phi = 81°\ 55'.6$

$\lambda\,\phi_s$ 9.99567
$\lambda\,\delta_s$ $9.599\frac{1}{3}\frac{8}{0}$
$9.594\frac{8}{9}\frac{5}{7}$

Constant $0.393\frac{4}{0}\frac{2}{3}$

$\lambda\,\phi_c = 9.14750$
$\lambda\,\delta_c = 9.9626\frac{8}{6}$
$9.1101\frac{8}{0}$

Latitude = 81° 55′ 54″

a has to be rejected or to be corrected for 1m.

b has to be rejected or to be corrected for 0m.5.

B.—OBSERVATIONS FOR TIME AND LONGITUDE.

The observations for longitude were taken either on the prime vertical or as near to it as could be possibly done. As the sun or any heavenly body, when on or near the prime vertical, moves nearly uniformly, we are justified in combining sets of observations taken on or near the prime vertical into groups; taking the means and reducing each observation to that epoch by making use of the well-known relation that the variations of the altitude are equal to the variations of the time multiplied by the cosine of the latitude, viz:—

$$\Delta h = \Delta t . \varphi_c$$

or, as our variations are referred to the double altitudes, and Δt in time, we get the formula—

$$\Delta h = 30 \Delta t \varphi_c$$

Adding then the corrections necessary for index-error, refraction, parallax, and semi-diameter, we obtain the single results of the observed double altitudes at the epoch.

Now we have to deduce the hour-angle from the well-known formulæ—

$$A_s = \varphi_s \delta_s + \varphi_c \delta_c \tau_c = \varphi_s \delta_s + \varphi_c \delta_c + \varphi_c \delta_c (\tau_c - 1) = \pm (\varphi - \delta)_c + \varphi_c \delta_c (\tau_c - 1)$$

$$M = 90^\circ - \varphi + \delta$$

$$M_s = (\varphi - \delta)_c$$

$$A_s = M_s - \varphi_c \delta_c (1 - \tau_c)$$

or—

$$(1 - \tau_c) = (M_s - A_s) : \varphi_c \delta_c$$

which latter formula was chiefly used in our reductions, though in some instances we made use of the formula—

$$\tau_c = \frac{1 - M_s + A_s + \varphi_c \delta_c}{\varphi_c \delta_c}$$

I.—OBSERVATIONS FOR TIME TAKEN AT POLARIS BAY OBSERVATORY.

Observations of altitudes of the sun for time, August 12, 1872.

	Chron.		2 $\odot$			Chron.	2 $\odot$
	h. m.		° ′			*h. m.*	° ′
	5 40.93		42 24.0			5 48.20	42 2.7
	42.27		20.8			49.23	41 59.5
	43.57		16.8			50.27	55.6
	44.97		12.2			53.23	46.3
	46.93		9.3			54.37	41.3
	46.85		6.8			55.50	37.8
	5 42.09	$2A$	42 15.0			5 51.80	41 50.5
		$2p$	+ 0.3				+ 0.3
		i	+ 1.3		° ′		+ 1.3
Barometer $29^{i}.8$		$2r$	− 5.3	$90^\circ - \phi$	8 23.5		− 5.4
Temperature $38^\circ.6$		$2s$	− 31.7	δ	14 43.8		− 31.7
				M	23 7.4 or 3		
		$2A$	41 39.6				41 15.0
		A	20 49.8				20 37.5
				ϕ_c	0.14594 418		
				δ_c	0.96713 549		

$\phi_c \delta_c$	0.14114 967	967	0.14114 967
${}_cM_s$	0.60729		0.60732
A_s	0.35560		0.35225
	0.10403 716		0.10071 307
τ_c	0.73703 749		0.71352 340
	h. m.		*h. m.*
τ	2 50.08		2 57.91
Equation	+ 4.67		+ 4.67
Mean time	2 54.75		3 2.58
Chronometer	5 42.09		5 51.80
Fast	2 49.34		2 49.22
Comparator	1 54.02		1 54.02
Z (fast)	4 43.36		4 43.24

Z fast on mean time, Polaris Bay, $4^h \ 43^m.30$.

Observations for time, August 12, 1872—Continued.

Latitude, 81° 36′.5.—Longitude, + 4h 8m.7 Greenwich; — 0h 59m.5 Washington.

Chron.	$2\odot$	Chron.	$2\odot$
h. m.	° ′	h. m.	° ′
5 58.23	40 26.2	6 6.97	39 57.4
59.33	22.8	7.90	54.3
6 0.33	19.3	9.00	51.2
3.90	7.3	9.90	49.0?
4.67	4.8	10.93	44.3
5.73	1.8	11.97	41.2
6 2.03	40 13.7	6 9.44	39 49.6

	$2A$	40 13.7			39 49.6
	$2p$	+ 0.3			+ 0.3
	i	+ 1.3		° ′	+ 1.3
Barometer 29i.8	$2r$	— 5.6	$90° - \phi$	8 23.5	— 5.6
Temperature 38°.6	$2s$	+ 31.7	δ	14 43.7	+ 31.7
			M	23 7.2	
	$2A$	40 41.4			40 17.3
	A	20 20.7			20 8.6

ϕ_c 0.14594 418

δ_c 0.96713 549

$\phi_c\ \delta_c$	0.14114 967	0.14114 967
$_cM_s$	0.60735	0.60735
A_s	0.34767	0.34437
	0.09616 299	0.09286 783
τ_c	0.68127 332	0.65790 816

	h. m.	h. m.
τ	3 8.23	3 15.43
Equation	+ 4.67	+ 4.67
Mean time	3 12.90	3 20.10
Chronometer	6 2.03	6 9.44
Fast	2 49.13	2 49.34
Comparator	1 54.02	1 54.02
Z (fast)	4 43.15	4 43.36

	h. m.
Z fast on mean time, Polaris Bay	4 43.25
before	43.30
Mean	43.28

	h. m.
The comparison between D and Z, on September 21, brought back 40d with the relative rate 6s.5, gives Z — D	1 20.90
or D fast on mean time, Polaris Bay	3 22.38
From November 4, back, also D fast on mean time, Polaris House	4 4.73 with rate 2s.55
hence, Polaris Bay east of Polaris House	0 42.35
Polaris House west of Greenwich	4 51.4
Polaris Bay west of Greenwich	4 9.0
Polaris Bay east of Washington	0 59.2

II.—OBSERVATIONS TAKEN IN KENNEDY CHANNEL AND SMITH SOUND.

F. MEYER, Observer.

Observations of altitudes of the sun for time, August 16, *a. m.*, 1872.

Approximate latitude, 80° 2′.0.—Longitude, + 4ʰ 35ᵐ.3 Greenwich; — 0ʰ 32ᵐ.9 Washington.

	t	Δi	2 ⊙	Red.	$2\,p\,i\,r\,s$		2 ⊙	Δ
	h. *m.*	*m.*	° ′	′	′		° ′	
Index-correction: off, 30′.8; on, 32′.6	6 3.19	+ 6.19	24 54.0	+ 32.3	+ 22.3		25 48.6	— 1
	8.61	+ 0.77	25 22.0	+ 4.0	22.5		48.5	0
	10.16	— 0.78	25 30.0	— 4.0	22.5		48.5	0
	11.71	— 2.33	25 38.0	— 12.1	22.6		48.5	0
	13.25	— 3.87	25 46.0	— 20.1	+ 22.6		48.5	0
	6 9.38					2 A	25 48.5	
	30 ϕ_c	5.19₃				A	12 54.3	

Barom.		*Temp.*
i		°
29.94	+	34.6
		°
+ 1.5	—	7.7
	—	6.2

	′	′		′	′
$2p$	+ 0.3	+ 0.3	Refraction	9.4	9.1
i	— 0.9	— 0.9		— 0.6	— 0.6
$2r$	— 8.8	— 8.5			
$2s$	+ 31.7	+ 31.7			
	+ 22.3	+ 22.6			

	° ′			
$90° - \phi$	9 58.0	ϕ_c	0.17308	825
δ	13 35.9	δ_c	0.97197	766
M	23 33.9			591

M_s	0.39979	
A_s	0.22333	
Diff.	0.17646	540
$\phi_c\,\delta_c$	0.16823	591
$1 - \tau_c$	1.04892	949
	h. *m.*	
τ	17 48.78	
Equation	+ 3.98	
Mean time	17 52.76	
F	18 9.38	
Fast	16.62	

Observations of altitudes of the sun for time, August 18, *a. m.*, 1872.

F. MEYER, Observer.

Chronometer F fast 18ᵐ.70.

Approximate latitude, 79° 44′.8.—Longitude, + 4ʰ 37ᵐ.6 Greenwich; — 0ʰ 30ᵐ.6 Washington.

	t	Δt	2 ⊙	Red.	$2\,p\,i\,r\,s$		2 ⊙	Δ
	h. *m.*	*m.*	° ′	′	′		° ′	
Index-correction: off, 35′.2; on, 28′.2	6 27.94	+ 5.09	25 32.0	+ 27.2	+ 26.8		26 26.0	+ 2
	30.94	+ 2.09	25 48.0	+ 11.2	26.9		26.1	+ 1
	32.43	+ 0.60	25 56.0	+ 3.2	27.0		26.2	0
	33.93	— 0.90	26 4.0	— 4.8	27.1		26.3	— 1
	39.93	— 6.90	26 36.0	— 36.8	+ 27.2		26.4	— 2
	6 33.03					2 A	26 26.2	
	30 ϕ_c	5.34₀				A	13 13.1	

Barom.		*Temp.*
i		°
29.89	+	31.6
		°
+ 1.3	—	7.0
	—	5.7

	′	′		′	′
$2p$	+ 0.3	+ 0.3	Refraction	9.3	8.8
i	+ 3.5	+ 3.4		— 0.5	— 0.5
$2r$	— 8.7	— 8.3			
$2s$	+ 31.7	+ 31.7			
	+ 26.8	+ 27.2			

	° ′			
$90° - \phi$	10 15.2	ϕ_c	0.17800	042
δ	12 57.0	δ_c	0.97457	882
M	23 12.2			924

M_s	0.39399	
A_s	0.22866	
Diff.	0.16533	116
$\phi_c\,\delta_c$	0.17348	924
τ_c	0.04698	192
	h. *m.*	
τ	18 10.78	
Equation	+ 3.55	
Mean time	18 14.33	
F	18 33.03	

Observations of altitudes of the sun for time, August 21, *a. m.*, 1872.

F. Meyer, Observer.

Chronometer F fast $20^{m}.70$.

Approximate latitude, 79° 39′.8.—Longitude, + 4^{h} $41^{m}.1$ Greenwich; — 0^{h} $27^{m}.1$ Washington.

	t		$2\,\underline{\odot}$				
	h. m.		° ′		° ′		
	8 54.02		35 46.3	90° — ϕ	10 20.2	Comp. M_s	0.62113
	56.77		35 57.3	δ	11 55.6	A_s	0.31209
	59.63		36 8.4	M	22 15.8	$\phi_c\ \delta_c$	0.17564 441
							0.10886 687
	8 56.81	2 A	35 57.3			τ_c	0.62010 246
Index-correction: off, 30′.7; on, 32′.8		2 p	+ 0.3	ϕ_c	0.17943 389		
″		i	— 1.1	δ_c	0.97841 052		h. m.
Barometer $29^{i}.99$ + 1.6		2 r	— 6.0		441	τ	20 33.29
Temperature + 42°.0 — 9.3		2 s	+ 31.7			Equation	+ 2.82
— 7.7						Mean time	20 36.11
		2 A	36 22.2			F	20 56.81
		A	18 11.1				

Observations of altitudes of the sun for time, August 24, *a. m.*, 1872.

Chronometer F fast $14^{m}.75$.

Approximate latitude, 79° 36′.2.—Longitude, + 4^{h} $32^{m}.6$ Greenwich; — 0^{h} $35^{m}.6$ Washington.

	t	Δt		2 Alt.	Red.	$2\,p\,i\,r\,s$		$2\,\odot$	Δ
	h. m.	m.		° ′	′	′		° ′	
	6 18.58	+ 5.47	$\underline{\odot}$	21 18.3	+ 29.8	+ 22.2		22 10.3	+ 2
Index-correction: off, 32′.3; on, 31′.2	20.93	+ 3.12	$\overline{\odot}$	22 34.5	+ 17.0	— 40.7		10.8	— 3
″	32.65	— 8.60	$\underline{\odot}$	22 34.5	— 46.8	+ 22.7		10.4	+ 1
Barometer $30^{i}.24$ + 2.5									
Temperature + 32°.4 — 7.2	6 24.05						2 A	22 10.5	
— 4.7	30 ϕ_c	5.41_4					A	11 5.2_5	

	′	′	′	*Refraction.*			
2 p	+ 0.3	+ 0.3	+ 0.3	10′.9	10′.4	Comp. M_s	0.63610
i	+ 0.6	+ 0.6	+ 0.6	— 0.5	— 0.5	A_s	0.19231
2 r	— 10.4	— 9.9	— 9.9			$\phi_c\ \delta_c$	0.17718 840
2 s	+ 31.7	— 31.7	+ 31.7				0.00559 741
	+ 22.2	— 40.7	+ 22.7			τ_c	0.03155 901

	° ′				
					h. m.
90° — ϕ	10 23.8	ϕ_c	0.18046 638		18 7.23
δ	10 56.6	δ_c	0.98181 202	Equation	+ 2.07
M	21 20.4		840	Mean time	18 9.30
				F	18 24.05

Observations of altitudes of the sun for time, September 3, 1872.

Approximate latitude, 79° 34′.0.—Longitude, + 4h 38m.8 Greenwich; — 0h 29m.4 Washington.

		t		$2\odot$				
		h. m.		° ′		° ′		
		12 42.30		25 6.3	90 — ϕ	10 26.0	Comp. M_s	0.69675
		43.23		25 1.8	δ	+ 7 13.2	A_s	0.21022
		44.10		24 56.5	M	17 39.2	$\phi_e\ \delta_e$	0.17966 444
		45.63		24 50.8			+	0.08663 767
		46.60		24 45.7	ϕ_e	0.18109 790	τ_e	0.48220 323
					δ_e	0.99207 654		
		12 44.43	2 A	24 56.2		444		h. m.
			2 p	+ 0.3		τ		4 4.68
Barometer	30i.0 + 1.7		i	+ 0.4		Equation		— 1.04
Temperature	37° — 8.4		2 r	— 8.8		Mean time		4 3.64
	— 6.7		2 s	— 31.8		H		12 44.43
						Chronometer fast		8 40.79
			2 A	24 16.3				
			A	12 8.1		From comparison, Z — H		8 34.04
						Hence Z — mean time		5 14.83

According to a note recovered, the error and rate of chronometer Z, used here in a field computation, is recorded as—

Z fast on Polaris Bay observatory, 4h 45m.97* (using daily rate + 4s.1), instead of 4h 44m.78, that needs a correction of — 1m.19 from observation on hand August 12.

Observations of altitudes of the sun for time, September 5, 1872.

Chronometer H fast 8h 41m.61.

Approximate latitude, 79° 36′.0.—Longitude, + 4h 35m.7 Greenwich; — 0h 32m.5 Washington.

		t		$2\odot$				
		h. m.		° ′		° ′		
		12 34.33		24 17.3	90 — ϕ	10 24.0	Comp. M_s	0.70963
		35.50		24 12.3	δ	+ 6 28.8	A_s	0.20026
		36.67		24 6.8	M	16 52.8	$\phi_e\ \delta_e$	0.17937 374
		37.82		24 1.3				0.08926 066
		39.13		23 54.0	ϕ_e	0.18052 653	τ_e	0.49764 692
		42.33		23 39.2	δ_e	0.99361 721		
		43.37		23 34.1		374		h. m.
		44.50		23 28.8		τ		4 0.63
		45.17		23 25.2		Equation		— 1.70
		46.60		23 18.7		Mean time		3 58.93
						H		12 40.54
		12 40.54	2 A	23 47.8		Chronometer fast		8 41.61
Index-correction: off, 31′.2; on 32′.3			2 p	+ 0.3				
			i	— 0.6				
Barometer	30i.02 + 1.8		2 r	— 9.4				
Temperature	+ 31°.2 — 6.8		2 s	— 31.8				
	— 5.0							
			2 A	23 6.3				
			A	11 33.1₅				

* 4h 45m.97 probably copied wrongly by about 1 minute, as is shown by the longitudes obtained by Mr. F. Meyer, and the chronometer-error, as given by Mr. Chester, at Newman's Bay.

Observations of altitudes of the sun for time, September 6, 1872.

Chronometer H fast $8^h\ 41^m.88$.

Approximate latitude, 79° 34′.6.—Longitude, + $4^h\ 36^m.2$ Greenwich; — $0^h\ 32^m.0$ Washington.

	t		2 ⊙
	h. m.		° ′
	12 44.00		22 45.2
	45.00		40.2
	45.95		36.0
	47.07		30.1
	48.00		26.2
	50.17		15.7
	51.15		10.6
	52.13		5.8
	53.10		0.8
	54.10		21 56.2
	12 49.07	2 *A*	22 20.7
Index-correction: off, 32′.6; on, 31′.2		2 *p*	+ 0.3
		i	+ 0.7
Barometer $29^i.52$ + 0.1		2 *r*	− 9.8
Temperature + 30°.0 − 6.6		2 *s*	− 31.8
− 6.5			
		2 *A*	21 40.1
		A	10 50.0_5

	° ′		
90 − φ	10 25.4	Comp. M_s	0.71554
δ	+ 6 6.2	A_s	0.18796
M	16 31.6	$\phi_c\ \delta_c$	0.17990 502
			0.08340 117
ϕ_c	0.18092 749	τ_c	0.46361 615
δ_c	0.99433 753		
	502		h. m.
		τ	4 9.52
		Equation	− 2.33
		Mean time	4 7.19
		H	12 49.07
		Chronometer fast	8 41.88

Observations of altitudes of the sun for time, September 8, 1872.

Chronometer H fast $8^h\ 42^m.67$.

Approximate latitude, 79° 29′.9.—Longitude, + $4^h\ 37^m.0$ Greenwich; — $0^h\ 31^m.2$ Washington.

	t		2 ⊙
	h. m.		° ′
	13 2.33		19 52.6
	3.33		47.5
	4.47		41.0
	5.40		36.7
	6.27		31.7
	9.97		13.5
	11.87		3.8
	13.07		18 57.0
	14.17		51.2
	15.17		47.0
	13 8.60	2 *A*	19 20.2
Index-correction: off, 33′.7; on, 30′.0		2 *p*	+ 0.3
		i	+ 1.8
Barometer $29^i.87$ + 1.2		2 *r*	− 11.4
Temperature + 31°.7 − 7.0		2 *s*	− 31.9
− 5.8			
		2 *A*	18 39.0
		A	9 19.5

	° ′		
90 − φ	10 30.1	Comp. M_s	0.72693
δ	5 20.7	A_s	0.16203
M	15 50.8	$\phi_c\ \delta_c$	0.18148 882
			0.07044 782
ϕ_c	0.18227 072	τ_c	0.38815 900
δ_c	0.99565 810		
	882		h. m.
		τ	4 28.64
		Equation	− 2.71
		Mean time	4 25.93
		H	13 8.60
		Chronometer fast	8 42.67

Observations of altitudes of the sun for time, September 10, 1872.

Chronometer II fast $8^h\ 43^m.28$.

Approximate latitude, 79° 27′.9.—Longitude, + $4^h\ 37^m.5$ Greenwich; — $0^h\ 30^m.7$ Washington.

	t		2 ⊙				
	h. m.		° ′		° ′		
	12 14.07		22 14.2	$90-\phi$	10 32.1	Comp. M_s	0.73890
	15.10		10.6	δ	+ 4 36.0	A_s	0.18427
	16.03		7.3	M	15 8.1	$\phi_c\ \delta_c$	0.18225 067
	17.07		2.4				0.10542 292
	18.00		21 57.1	ϕ_c	0.18284 207	τ_c	0.57843 225
	19.03		52.0	δ_c	0.99678 860		
	20.00		48.5		067		h. m.
	21.03		42.8		τ		3 38.64
	22.00		38.5		Equation		— 3.39
	23.00		33.3		Mean time		3 35.25
					H		12 18.53
	12 18.53	2 A	21 54.7		Chronometer fast		8 43.28
Index-correction: off, 33′.0; on, 30′.7		2 p	+ 0.3				
		i	+ 1.2				
Barometer 29ⁱ.90 + 1.4		2 r	— 10.1				
Temperature + 29°.4 — 6.5		2 s	— 31.9				
— 5.1							
		2 A	21 14.2				
		A	10 37.1				

Observations of altitudes of the sun for time, September 13, 1872.

Chronometer II fast $8^h\ 44^m.93$.

Approximate latitude, 79° 22′.8.—Longitude, + $4^h\ 40^m.0$ Greenwich; — $0^h\ 28^m.2$ Washington.

	t		2 ⊙				
	h. m.		° ′		° ′		
	12 9.27		20 32.6	$90-\phi$	10 32.7	Comp. M_s	0.75684
	10.21		28.0	δ	+ 3 27.2	A_s	0.17047
	11.10		24.0	M	14 4.4	$\phi_c\ \delta_c$	0.18394 468
	12.07		19.7				0.11125 630
	13.03		15.3	ϕ_c	0.18427 546	τ_c	0.60481 162
	14.10		10.7	δ_c	0.99819 922		
					468		h. m.
Index-correction: off, 30′.7; on, 33′.0	12 11.63	2 A	20 21.3		τ		3 31.14
		2 p	+ 0.3		Equation		— 4.44
Barometer 29ⁱ.57 + 0.2		i	— 1.2		Mean time		3 26.70
		2 r	— 10.8		H		12 11.63
Temperature + 28°.4 — 6.3		2 s	— 31.9		Chronometer fast		8 44.93
— 6.1							
		2 A	19 37.7				
		A	9 48.9				

Observations of altitudes of the sun for time, September 14, 1872.

Chronometer II fast $8^h\ 45^m.30$.

Approximate latitude, 79° 21′.—Longitude, + $4^h\ 40^m.4$ Greenwich; — $0^h\ 27^m.8$ Washington.

	t		$2\overline{\odot}$				
	h. m.		° ′		° ′		
	12 17.83		19 11.2	$90-\phi$	10 39.	Comp. M_s	0.76288
	18.67		7.0	δ	+ 3 4.0	A_s	0.15882
	19.50		3.3	M	13 43.0	$\phi_c\ \delta_c$	0.18454 610
	20.33		18 59.5			Sun — 1	0.10624 628
	21.17		55.3	ϕ_c	0.18481 672	τ_c	0.57568 018
	22.00		52.0	δ_c	0.99857 938		
					610		h. m.
Barometer, temperature, and index-error assumed the same as the day before.	12 19.92	$2A$	19 1.4			τ	+ 3 39.41
		$2p$	+ 0.3			Equation	— 4.79
		i	— 1.2			Mean time	+ 3 34.62
		$2r$	— 13.0			II	12 19.92
		$2s$	— 31.9			Chronometer fast	8 45.30
		$2A$	18 16.6				
		A	9 8.3				

Observations of altitudes of the sun for time, September 25, 1872.

Chronometer II fast $8^h\ 50^m.44$.

Approximate latitude, 79° 12′.9.—Longitude, + $4^h\ 42^m.7$ Greenwich; — $0^h\ 25^m.5$ Washington.

			t		$2\odot$				
			h. m.		° ′		° ′		
			11 54.83		12 44.2	$90-\phi$	10 47.1	ϕ_c	0.18713 214
			55.83		40.8	δ	— 1 12.1	δ_c	0.99978 990
			56.83		37.3	M	9 35.0	$\phi_c\ \delta_c$	0.18709 204
								A_s	0.10334
Index-correction: off, 31′.5; on, 32′.4			11 55.83	$2A$	12 40.8			Comp. M_s	0.83352
				$2p$	+ 0.3			Σ	0.12395 325
Barometer	29ⁱ.44	— 0.2		i	— 0.5			τ_c	0.66253 121
				$2r$	— 16.9				
Temperature	+ 20°.2	— 4.4		$2s$	— 32.0				h. m.
		— 4.6						τ	3 14.03
				$2A$	11 51.7			Equation	— 8.64
				A	5 55.9			Mean time	3 5.39
								II	11 55.83
								Chronometer fast	8 50.44

Observations of altitudes of Capella, October 2, 1872.

Chronometer II fast $8^h\ 46^m.80$.

Approximate latitude, 78° 58′.8.—Longitude, + $4^h\ 43^m.0$ Greenwich; — $0^h\ 25^m.2$ Washington.

		t		2 Alt.				
		h. m.		° ′		° ′		
		19 15.90	Capella	90 33.3	$90-\phi$	11 1.2	ϕ_c	0.19115 138
		20.43		91 3.3	δ	45 51.9	δ_c	0.69635 283
		22.57		12.0	M	56 53.1	$\phi_c\ \delta_c$	0.13311 421
		24.90		27.3			A_s	0.71419
		27.50		41.2			${}_cM_s$	0.16242
							Σ	0.00972 767
		19 22.26	$2A$	91 11.4			τ_c	0.07302 346
			$2p$	0.0				
			i	0.0				*h. m.*
Barometer	30′.05	+ 1.9	$2r$	− 2.1			τ	18 16.74
Temperature	+ 1°.3	− 0.3	$2s$	0.0			α	5 7.28
		+ 1.6					μ	23 24.02
			$2A$	91 9.3			μ_0	12 46.82
			A	45 34.6			int.	10 37.20
							$\Delta\mu$	− 1.74
							Mean time	10 35.46
							II	19 22.26
							Chronometer fast	8 46.80

C.—OBSERVATIONS TAKEN AT POLARIS HOUSE.

Observations of distance between α and β Geminorum for time, November 4, 1872.

Chronometer II fast $8^h\ 0^m.31$.*

				t				
				h. m.				° ′
				19 33.17	α Geminorum on β			65 8.5
Barometer	29ⁱ.79	+ 1.0		35.13	Geminorum			21.0
Temperature	− 6°.7	+ 1.5		36.97				32.7
		+ 2.5						
				19 35.09	$A_\alpha + A_\beta$			65 20.7
Refraction	3′.3	+ 0′.1	Fast	7 60.31	i			+ 1.5
			Mean time	11 34.78	$2r$			− 3.4
			$\Delta\mu$	+ 1.90	$A_\alpha + A_\beta$			65 18.8
			μ_0	14 56.94		*h. m.*		
			α	7 26.47	τ_α	4 52.85	δ_α	+ 32 9.9
			β	7 37.52	τ_β	5 3.90	δ_β	+ 28 19.9
			μ	2 33.62			ϕ	+ 78 23.4

$$A_s = \phi_s\ \delta_s + \phi_c\ \delta_c\ \tau_c$$

	α Geminorum.	*β Geminorum.*
ϕ_s	0.97954 102	0.97954 102
δ_s	0.53235 621	0.47457 630
$\phi_s\ \delta_s$	0.52148 723	0.46485 732
ϕ_c	0.20126 375	0.20126 375
δ_c	0.84652 764	0.88021 459
τ_c	0.28882 063	0.24235 444
$\phi_c\ \delta_c\ \tau_c$	0.04921 202	0.04293 278
A_s	0.57069	0.50778
A	34° 47′.9	30° 30′.9

$A_\alpha + A_\beta = 65°\ 18'.8$

In the preceding observation, it happened that Castor was brought on to Pollux, as they stood vertically one above the other (having the same azimuth). The reduction was made in an indirect way, assuming first the chronometer-error and computing the altitudes of the stars, repeating this process until the sum of the altitudes corresponding to the assumed epoch was found to be equal to that observed corrected for index-error and refraction.

* Chronometer II ran down October 23.

Observations of altitudes of Capella for time, November 18, 1872.

t		2 Alt.				
h. m.		° ′		° ′		
18 30.23	Capella	108 0.0	$90-\phi$	11 36.6	ϕ_c	0.20126 375
32.70		12.5	δ	45 52.0	δ_c	0.69633 282
35.30		25.2	M	57 28.6	$\phi_c\ \delta_c$	0.14014 657
					A_s	0.81012
18 32.74	2 A	108 12.5			$_cM_s$	0.15682
	i	+ 2.0				0.10708 971
	2 r	− 1.6			τ_c	0.76409 314
Barometer 29^{i}.72 + 0.7 °						
Temperature − 17°.4 + 3.8	2 A	108 12.9				h. m.
+ 4.5	A	54 6.5			τ	2 40.70 before.
					α	5 7.31
					μ	2 26.61
					μ_0	15 52.14
						10 34.47
					$\Delta\mu$	− 1.73
					Mean time	10 32.74
					H	18 32.74
					Chronometer H fast	8 0.00

Observations of altitudes of Capella for time, December 19, a. m., 1872.

t		2 Alt.			
h. m.		° ′			
22 51.17	Capella	103 26.2		$\phi_c\ \delta_c$	0.14014 657
54.44		8.0		A_s	0.78202
56.95		102 53.4		$_cM_s$	0.15682
59.33		40.0			0.07898 752
61.58		28.3		τ_c	0.56358 095
22 56.69	2 A	102 55.2			h. m.
	i	0.0		τ	3 42.79 after.
	2 r	− 1.7		α	5 7.32
Barometer 29^{i}.02 + 1.7 °				μ	8 50.11
Temperature − 7°.8 + 1.7	2 A	102 53.5	18th	μ_0	17 50.42
+ 3.4	A	51 26.7			14 59.69
				$\Delta\mu$	− 2.46
				Mean time	14 57.23
				H	22 56.69
				Chronometer H fast	7 59.46

Altitudes of η Ursæ Majoris for time, March 4, 1873.

Meridian.	t	$\Delta\mu$	τ	$\lambda\tau_c$	9.11231	0.74974	A_s	2 A computed.	Observed.*	$\triangle$
h. m.	h. m.	m.	h. m.					° ′	′	′
22 47.16	— 2 42.39	— 0.44	2 42.83	9.87970	8.99201	0.09818	0.84792	115 58.4	59.1	— 0.7
	2 39.23	0.44	39.67	88478	8.99709	09933	84907	116 13.2	12.8	+ 0.4
	2 36.54	0.43	36.97	88901	9.00132	10031	85005	26.0	27.3	— 1.3
	2 33.55	0.42	33.97	89359	00590	10136	85110	38.2	39.8	— 1.6
	2 31.03	0.41	31.44	89736	00967	10224	85198	50.6	49.9	+ 0.7
	2 21.63	0.39	22.02	91066	02297	10544	85518	117 32.4	29.4	+ 3.0
	2 18.95	0.38	19.33	91425	02656	10631	85605	45.1	45.4	— 0.3
	2 16.57	0.37	16.94	91737	02968	10707	85681	55.3	55.9	— 0.6
	2 14.36	0.37	14.73	92019	03250	10777	85751	118 4.5	5.6	— 1.1
	— 2 11.93	— 0.36	12.29	92323	03554	10853	85827	14.7	14.3	+ 0.4

η Ursæ Majoris for meridian passage. δ 49° 56′.6

	h. m.				
α	13 42.56	$\lambda\,\delta_c$	9.80858	$\lambda\,\delta_s$	9.88389
μ_o	22 50.06	$\lambda\,\phi_c$	9.30373	$\lambda\,\phi_s$	9.99102
Sid. i	14 52.50	Constant	9.11231		9.87491
$\Delta\mu$	— 2.44				+ 0.74974
Mean time	14 50.06	m.			
Chronometer II fast	7 57.1	— 0.08			
II	22 47.16				
	(Assumed.)				

In the above observation, the name of the star was not given, and it was formally assumed to be α Ursæ Majoris on β Ursæ Majoris, observed with chronometer D; but the chronometer-error did not agree within 2ᵐ. Different assumptions were made till η Ursæ Majoris was found, when the observations agreed. They are a little wild, however, owing to the low temperature.

The probable error of one observation............. = ± 0′.9
The limit of rejection........ .... = 1′.7

If, therefore, we reject the sixth observation, or correct it for 1ᵐ in time, the rest would agree among each other.

* Corrected for refraction and index-error, 2 r = — 1′.4; i = — 0.5.—Barometer, 29″.59; temperature, — 35°.0.

Observations of altitudes of the sun for time, April 22, 1873.

			2 ⊙				
	h. m.		° ′		° ′		
	4 24.60		32 56.7	90 — ϕ	11 36.6	ϕ_c	0.20125 374
	25.60		49.8	δ	+ 12 26.5	δ_c	0.97651 968
	26.83		43.3	M	24 3.1	$\phi_c\ \delta_c$	0.19652 342
	27.53		39.5			A_s	0.27659
	28.47		32.8			$c\ M_s$	0.59244
							0.06555 657
	4 26.61	2 A	32 44.4			τ_c	0.33354 315
Index-correction: off, 33′.3; on, 30′.3		2 p	+ 0.3				h. m.
8		i	+ 1.5			τ	4 42.06
Barometer 30.61 + 3.7		2 r	— 7.5			Equation	— 1.69
Temperature — 2.9 + 0.6		2 s	— 31.9			Mean time	4 40.37
+ 4.3		2 A	32 6.8			Watch	4 26.61
		A	16 3.4			Watch slow	13.76

Observations of altitudes of the sun for time, May 6, 1873.

Chronometer H slow $10^h\ 34^m.03$.

	t		2 ⊙	t	2 ⊙	t	2 ⊙
	h. m.		° ′	h. m.	° ′	h. m.	° ′
	19 29.53		31 40.7	19 34.97	31 8.7	19 38.95	30 45.5
	30.83		33.0	35.58 ?	5.0	39.77	40.7
	31.65		28.7	36.35	1.0	40.40	36.0
	32.98		20.3	36.99	30 57.2	40.88	33.5
	33.90		15.2	37.83	51.5	41.61	29.5 ?
	19 31.78	2 A	31 27.6	19 36.34	31 0.7	19 40.32	30 37.0
Index-correction: off, 32′.0; on, 31′.6		2 p	+ 0.3		+ 0.3		+ 0.3
		i	+ 0.2		+ 0.2		+ 0.2
Barometer 30.1 + 2.0		2 r	— 7.5		— 7.6		— 7.7
8		2 s	+ 31.8		+ 31.8		+ 31.8
Temperature 2.8 — 0.3		2 A	31 52.4		31 25.4		31 1.6
+ 1.7		A	15 56.2		15 42.7		15 30.8
		90 — ϕ	11 36.6				11 36.6
		δ	16 45.7				16 45.8
		M	28 22.3				28 22.4
		ϕ_c	0.20125 374				
		δ_c	0.95751 114				
		$\phi_c\ \delta_c$	0.19270 488		0.19270 488		0.19270 488
		Comp. M_s	0.52481		0.52480		0.52479
		A_s	0.27457		0.27080		0.26747
		Sum — 1	— 0.00792 873		— 0.01170 045		— 0.01504 725
		τ_c	— 0.04110 385		— 0.06103 557		— 0.07805 237
			h. m.		h. m.		h. m.
		τ	6 9.42		6 13.99		6 17.91
		Equation	— 3.60		— 3.60		— 3.60
		Mean time	6 5.82		6 10.39		6 14.31
		H	19 31.78		19 36.34		19 40.32
		Sl	10 34.04		10 34.05		10 33.99

*Observations of lunar distances, May 6, 1873.**

Index-correction: off, 32′.0; on, 31′.5

			″
Barometer		30.20	+ 2.3
Temperature	+	2.4	− 0.5
			+ 1.8

	h. m.	☽ I and ☉ II ° ′	′
Chron. II	19 47.2	116 25.5	27.8
	48.9	26.8	28.4
	50.4	27.7	28.9
	51.7	29.0	29.5
II	19 49.5	116 27.2	28.6
Slow	10 33.9	+ 0.3	+ 0.3
Mean time	6 23.4 P. II.		
Longitude	4 51.1		
Time	11 14.5 Gr.		

Chronometer-correction.

	h. m.	
April 22	+ 10 33.6	from time-observations.
May 6	34.0	
May 22	34.0	
Adopted for May 6	33.9	

	h. m.		α h. m.	δ °	π ′	S D ′	τ h. m.	τ_c	δ_s	δ_c
μ_0	2 57.6	☉	2 55.9	+ 16.8	0.15	15.88	6 26.8	− 0.113	+ 0.289	+ 0.957
$\Delta\mu$	1.8	☾	11 5.7	+ 11.2	54.34	14.84	1 43.0	+ 0.901	+ 0.194	+ 0.981
μ	9 22.7									

Formulæ.

$$A_s = \varphi_s\,\delta_s + \varphi_c\,\delta_c\,\tau_c$$

$$\odot_c = (☾^A_s - \varkappa_c\,\odot^A_s) : \varkappa_s\,\odot^A_c$$

$$☾_c = (\odot^A_s - \varkappa_c\,☾^A_s) : \varkappa_s\,☾^A_c$$

Approximate true distance	κ = 116°.6	κ_s	+ 0.894
Latitude	ϕ = 78.4	κ_c	− 0.448
		ϕ_s	+ 0.980
		ϕ_c	+ 0.201

	☉	☾
$\phi_c\,\delta_c$	+ 0.192	+ 0.197
$\phi_s\,\delta_s$	+ 0.283	+ 0.190
$\tau_c\,\phi_c\,\delta_c$	− 0.022	+ 0.177
A_s	+ 0.261	+ 0.367
A_c	+ 0.965	+ 0.930
True A	15°.1	21°.5
Approx. par.		− 0.8
A_s	+ 0.261	+ 0.367
$-\kappa_c\,A_s$	+ 0.117	+ 0.164
Cross sum	+ 0.484	+ 0.425
$\kappa_s\,A_c$	: 0.863	: 0.831
ω_c	+ 0.561	+ 0.511

	° ′		′
Observed κ	116 28.4		28.9
Reduction	+ 8.6		8.6
True κ	37.0	P. II.	37.5
XII^h Am. Eph.	58.2	Gr.	58.2
$\Delta\kappa$	− 21.2		− 20.7
1^m	+ 0.456		0.456
ΔT	− 46.5		− 45.4
Mean time	XI^h 13.5	Gr.	14.6
Mean time	VI^h 23.4	P. II.	23.4
Longitude	4 50.1		51.2

	′	′		′
Ag. par.	0.15	54.34		
Red. for lat.	0.00	− 0.17		
Hor. par.	0.15	54.17		
Appt. A_c	0.97	0.936		
Corr. for par.	− 0.14	− 50.70		
Corr. for ref.	+ 3.95	+ 2.82		
$p - r$	+ 3.81	− 47.88		
Proj.	+ 2.13	− 24.47	=	− 22.34
Aug. S. D	+ 15.88	+ 14.93	=	+ 30.81
Reduction				+ 8.47
For contraction of semidiameters				+ 0.14
For second reduction †				0.00

* The reductions of the few lunar distances recorded here were made under the supposition that the arc was read backward from 116° 30′ at the rate of 30″ instead of 15″ for one division of the vernier; the sextant used being one by Stackpole, divided to 15″.

† Compare Chauvenet, Manual of Spherical and Practical Astronomy, p. 410.

Observations of altitudes of the sun for time, May 21, 1873.

t		2 Alt.	
h. m.		° ′	
19 20.63	$\overline{\odot}$	40 33.3	
21.99		25.2	
22.71		21.2	
23.34		17.3	
23.90		13.7	
24.55		9.8	
25.10		6.2	
25.85		1.8	
26.47		39 57.8	
27.02		54.8	
27.61		51.5	
28.10		48.5	
28.68		45.2	
29.19		42.4	
29.75		38.8	
30.27		35.7	
30.92		32.0	
19 26.24	$2A$	39 59.6	$\pm$ 0.1
	$2p$	+ 0.3	
	i	+ 3.5	
	$2r$	− 5.5	
	$2s$	− 31.7	
	$2A$	39 26.2	
	A	19 43.1	

Index-correction: off, 35′.2; on, 28′.2

		″
Barometer	29.79	+ 1.0
Temperature	+ 24.3	− 5.4
		− 4.4

	° ′
$90^\circ - \phi$	11 36.6
δ	20 21.0
M	31 57.6
ϕ_c	0.20125 374
δ_c	0.93759 202
$\phi_c\,\delta_c$	0.18870 576
A_s	0.33740
Comp. M_s	0.47067
	− 0.00323 920
τ_c	− 0.01712 344

	h. m.
τ	6 3.92
Equation	− 3.64
Mean time	6 0.28
H	19 26.24
Chronometer H slow	10 34.04

Observations of equal altitudes of the sun, May 22, 1873.

Latitude, 78° 23′.4.—Longitude, + 4h 51m.1 Greenwich; — 0h 17m.1 Washington.

t		2 Alt.				Middle.	Δ
h. m.		° ′				h. m.	
7 20.11	$\overline{\odot}$	40 20.0	$\times_1$		1	13 23.33	—
21.75		30.0	$\times_2$		2	.31	
23.49		40.0	$\times_3$		3	.38	— 7
25.09		50.0	$\times_4$		4	.30	+ 1
26.77		41 0.0	$\times_5$		5	.29	+ 2
28.43		10.0	$\times_6$		6	.32	— 1
30.04		20.0	$\times_7$		7	.26	+ 5
31.73		30.0					
33.38		40.0			II	13 23.31	± 1
35.06		50.0		+ Equation		— 0.94	
36.74		42 0.0		— Equation		+ 3.59	
38.37		10.0		Chronometer II		10 34.04 slow.	
40.08		20.0					
8 0.33	$\underline{\odot}$	43 20.0					
1.21		25.0					
2.03		30.0					
2.93		35.0					
3.78		40.0		Index-correction: off, 35′.2; on, 28′.2			
4.59		45.0					
5.43		50.0		Barometer		29.75	
6.26		55.0		Temperature		+ 31.4	
7.00		44 0.0					
7.89		5.0					
8.73		10.0					
9.57		15.0					
10.41		20.0					
11.30		25.0					
12.11		30.0					
12.90		35.0					
13.74		40.0					
14.62		45.0					
15.47		50.0					
16.25		55.0					
19 16.48	$\overline{\odot}$	41 20.0	$\times_7$	Barometer		29.73	
18.20		10.0	$\times_6$	Temperature		+ 28.3	
19.81		0.0	$\times_5$				
21.51		40 50.0	$\times_4$				
23.27		40.0	$\times_3$				
24.87		30.0	$\times_2$				
26.54		20.0	$\times_1$				
28.27		10.0					
29.97		40 0.0					

Solar eclipse, May 26, a. m., 1873.

Latitude, 78° 23′.4.—Longitude, + 4^h 51^m.3 Greenwich ; — 0^h 16^m.9 Washington.
Recorded barometer, 29′.975 Temperature, + 24°.5

Formulæ.

First contract by N. Hayes.	h.	m.	s.	☾	Observatory.	Last by W. D. Bryan. h.	m.	s.		
II	4	56	29.0	$x\ \rho\ \delta_c\ \alpha_c$	$\phi_c\ \mu_c$	6	49	25.2	House	78 23.4
D − H	2	26	41.5	$y\ \rho\ \delta_c\ \alpha_s$	$\phi_c\ \mu_s$	2	26	41.5	Geoc.	18.8
D	7	23	10.5	$z\ \rho\ \delta_s$	ϕ_s — 0.3 0	9	16	6.7		
Slow	8	7	16.0			8	7	16.0		78 21.1
Mean time	15	30	26.5	μ_c + 0.448	μ_s — 0.894	17	23	22.7		
Longitude	4	51	(36..)			4	51	(36..)	ϕ_c + 0.202	ϕ_s + 0.979
T	20	22	2.5			22	14	58.7	μ_c + 0.818	μ_s — 0.575
μ_0	4	12.5				4	12.5			
$\Delta\mu$	+	3.3				+	3.7			
μ	19	46.2				21	39.6			

Wiessner Alm.	+ 25.766	+ 49.375	+ 22.520	+ 24.793	+ 49.798	+ 22.811
Observatory	— 0.090	+ 0.181	— 0.976	— 0.165	+ 0.116	— 0.976
$x\ y\ z$	+ 25.676	+ 49.556	+ 21.544	+ 24.628	+ 49.914	+ 21.835
	1.40953	1.33333	2.97127	1.39143	1.33915	2.97127
	1.69510	1.74674	8.22310	1.69822	1.74554	8.22338
	9.94836	9.96984	1.19437	9.95268	9.96892	1.19465
	0.28557	9.58659		0.30679	9.59361	

$\alpha\ \delta\ \sigma$	h. m. s.	° ′ ″	′	h. m. s.	° ′ ″	′
☾	4 10 26.5	+ 21 6 24	15.64—4	4 14 57.0	+ 21 25 11	15.65—4
☉	12 38.6	9 55	15.78	12 57.6	10 44	15.78
	— 2 12.1	— 3 31	31.42—4	+ 1 59.4	+ 14 27	31.43—4
0.25 δ_c	0.2332		31.00	0.2329		31.34
	30′.80	3.52	— 0.42 : 0.54	27.81	14.45	10.09 : 0.54
□	948.6	12.4	961.0	773.4	208.8	982.2
$\Delta\lambda$			— 0^m.78			+ 0^m.17

Mean, — 0^m.30, or — 18^s ; longitude, 4^h 51^m 18^s,

as the final result of the eclipse, neglecting the effect of refraction for points having the same altitudes in different distances. The correction is small and amounts to an increase of the observed coördinates of about $0.03^{\frac{0}{0}}$

If we might not suspect the first contact to be observed too late, and the last a little too early, the record would furnish means for determining (b) the polar axis, as the effect of the equatorial radius in parallax is quite small. The difference may also be explained, supposing the tabular place of the   to be 10″ in error.

Observations of altitudes of the sun for time, May 27, 1873.

t (h. m.)	$2\odot$ (° ′)		t (h. m.)	$2\odot$ (° ′)
21 36.03	45 32.7		21 57.77	46 41.0
37.02	39.3		59.17	49.0
38.00	45.2		22 0.23	55.7
38.97	50.7		1.27	47 1.8
40.17	58.0		2.30	8.0
			3.33	14.7
21 38.04	$2A$ 45 45.2		6.40	32.5
			7.33	38.0
			8.27	44.2
			9.20	49.5
			10.13	55.5
			22 3.83	$2A$ 47 16.6

Index-correction: off, 32′.0; on, 31′.4

Barometer	$30^{i}.13$	+ 2.1
Temperature	+ 29°.2	− 6.5
		− 4.4

$2A$	45 45.2		$2A$	47 16.6
$2p$	+ 0.3		$2p$	+ 0.3
i	+ 0.3		i	+ 0.3
$2r$	− 4.8		$2r$	− 4.7
$2s$	− 31.6		$2s$	+ 31.6
$2A$	45 9.4		$2A$	47 44.1
A	22 34.7		A	23 52.1
90° − ϕ	11 36.6			
δ	21 21.3			
M	32 57.9			

ϕ_c]	0.20125 374		90° − ϕ	11 36.6
δ_c	0.93134 911		δ	21 21.5
$\phi_c\ \delta_c$	0.18744 285		M	32 58.1
A_s	0.38395		$\phi_c\ \delta_c$	0.18743 284
$_cM_s$	0.45588		A_s	0.40464
	0.02727 569		$_cM_s$	0.45582
τ_c	0.14549 284			0.04789 024
			τ_c	0.25551 740

	h. m.			h. m.
τ	18 33.46		τ	18 59.21
Equation	− 3.13		Equation	− 3.13
Mean time	18 30.33		Mean time	18 56.08
II	21 38.04		II	22 3.83
Chron. II fast	3 7.71		Chron. II fast	3 7.75

Chronometer II ran down on the 26th.

Observations of altitudes of the sun for time, May 31, 1873.

	t		$2\odot$	t		$2\odot$
	h. m.		° ′	h. m.		° ′
	9 21.37		41 1.9	9 31.17		40 4.5
	22.93		40 53.0	32.07		39 58.8
	24.17		45.7	33.27		51.3
	25.10		40.4	34.63		44.5
	27.13		28.8	35.60		38.2
	9 24.14	$2A$	40 45.9	9 33.35	$2A$	39 51.5
Index-correction: off, 31′.2; on, 31′.8		$2p$	+ 0.3		$2p$	+ 0.3
ϑ		i	− 0.3		i	− 0.3
Barometer 29.88 + 1.3		$2r$	− 5.6		$2r$	− 5.7
Temperature + 14.8 − 3.3		$2s$	+ 31.6		$2s$	+ 31.6
		$2A$	41 11.9		$2A$	40 17.4
2.0		A	20 36.0		A	20 8.7
		$90°-\phi$	11 36.6		$90°-\phi$	11 36.6
		δ	22 2.2		δ	22 2.2
		Mean	33 38.8		Mean	33 38.8
		ϕ_c	0.20125 374			
		δ_c	0.92695 705			
		$\phi_c\ \delta_c$	0.18655 079		$\phi_c\ \delta_c$	0.18655 079
		A_s	0.35184		A_s	0.34440
		$_cM_s$	0.44593		M_s	0.44593
			0.01568 535			0.02312 399
		τ_c	0.08405 456		τ_c	0.12394 320
			h. m.			h. m.
		τ	6 19.29		τ	6 28.48
		Equation	− 2.53		Equation	− 2.53
		Mean time	6 16.76		Mean time	6 25.95
		H	9 24.14		H	9 33.35
		Fast	3 7.38		Fast	3 7.40

Chronometer II fast $3^h\ 7^m.39$.

Observations of altitudes of the sun for time, June 1, 1873.

	t		$2\odot$	t		$2\odot$
	h. m.		° ′	h. m.		°
	21 24.23		45 46.0	21 33.14		45 37.0
	25.33		53.3	34.32		44.2
	26.39		59.2	35.26		49.3
	27.67		46 7.5	36.32		56.2
	28.63		13.6	37.35		46 2.5
	21 26.45	$2A$	45 59.9	21 35.28	$2A$	45 49.8
Index-correction: off, 32′.0; on, 31′.2		$2p$	+ 0.3		$2p$	+ 0.3
°		i	+ 0.4		i	+ 0.4
Barometer 29.88 + 1.3		$2r$	— 4.9		$2r$	— 4.9
Temperature + 18.0 — 4.0		$2s$	— 31.6		$2s$	+ 31.6
		$2A$	45 24.1		$2A$	46 17.2
— 2.7		A	22 42.0		A	23 8.6

$90°-\phi$	11 36.6		
δ	22 6.3		
Mean	33 42.9		
ϕ_c	0.20125 374		
δ_c	0.92650 685		
$\phi_c\ \delta_c$	0.18646 059	$\phi_c\ \delta_c$	0.18646 059
A_s	0.38591	A_s	0.39303
$_cM_s$	0.44494	$_cM$	0.44494
	0.01731 830		0.02443 792
τ_c	0.09283 771	τ_c	0.13102 733
	h. m.		h. m.
τ	18 21.31	τ	18 30.12
Equation	— 2.46	Equation	— 2.46
Mean time	18 18.85	Mean time	18 27.66
H	21 26.45	H	21 35.28
Fast	3 7.60	Fast	3 7.62

Chronometer II fast $3^h\ 7^m.61$.

Before recapitulating the preceding observations, we propose giving some others taken in connection with the same at Van Rensselaer Harbor and at Port Foulke. The former were taken a few feet from the mass of lead with a copper bolt, referred to by Dr. Kane;* the latter very near to the site of Dr. Hayes's observatory.

VAN RENSSELAER HARBOR.

Observations of altitudes of the sun for time, May 15, 1873.

	t		$2\odot$	
	h. m.		° ′	
	18 10.10		44 15.0	Clouds
	12.00		44 2.6	Good
	13.39		43 55.0	Clouds
	18 12.00	$2A$	44 2.6	
		$2p$	+ 0.3	
Index-correction: off, 32′.2;		i	+ 0.4	
on, 31′.4	☿	$2r$	− 4.9	
Barometer	30.35 + 2.7	$2s$	− 31.7	
		$2A$	43 26.7	
Temperature + 34°.7	− 7.7	A	21 43.3	
	− 5.0			
	$90°-\phi$		11 22.9	
	δ		19 2.7	
	M		30 25.6	
	ϕ_c		0.19734 522	
	δ_c		0.94526 555	
	$\phi_c\,\delta_c$		0.18654 077	
	A_s		0.37010	
	${}_cM_s$		0.49356	
			0.05020 070	
	τ_c		0.26911 993	
			h. m.	
	τ		4 57.55	
	Equation		− 3.89	
	Mean time		4 53.66	
	H		18 12.00	
	Slow		10 41.66	

t		$2\odot$	
h. m.		° ′	
18 25.67		42 43.5	Clouds
27.03		35.4	Good
27.86		30.5	Good
28.87		25.0	Good
30.09		17.7	Good
30.92		13.1	Good
18 28.95	$2A$	42 24.3	
	$2p$	+ 0.3	
	i	+ 0.4	
	$2r$	− 5.1	
	$2s$	− 31.7	
	$2A$	41 48.2	
	A	20 54.1	
$90°-\phi$		11 22.9	
δ		19 2.8	
M		30 25.7	
$\phi_c\,\delta_c$		0.18653 076	
A_s		0.35677	
${}_cM_s$		0.49354	
		0.03684 632	
τ_c		0.19750 556	
		h. m.	
τ		5 14.44	
Equation		− 3.89	
Mean time		5 10.55	
H		18 28.95	
Slow		10 41.60	

	t		$2\odot$	
	h. m.		° ′	
	19 7.55		38 37.5	Good
	8.78		30.2	Good
	9.97		23.0	Good
	11.17		15.8	Good
	12.52		8.0	Good
	19 10.00	$2A$	38 22.9	
		$2p$	+ 0.3	
Barom.	☿	i	+ 0.4	
30.36	+ 2.2	$2r$	− 5.8	
Temp.		$2s$	− 31.7	
		$2A$	37 46.1	
27°.9	− 6.3	A	18 53.0	
	− 4.1			
	$90°-\phi$		11 22.9	
	δ		19 3.2	
	M		30 26.1	
	$\phi_c\,\delta_c$		0.18653 075	
	A_s		0.32364	
	${}_cM_s$		0.49343	
			0.00360 630	
	τ_c		0.01930 555	
			h. m.	
	τ		5 55.58	
	Equation		− 3.89	
	Mean time		5 51.69	
	H		19 10.00	
	Slow		10 41.69	

Chronometer H slow $10^h\ 41^m.65$.

Chronometer H slow, before starting,	May 6	$10^h\ 34^m.03$	
after return,	May 21	$34^m.04$	
on Polaris House time		$10^h\ 34^m.04$	
on Van Rensselaer Harbor		$41^m.65$	
Difference of longitude		$7^m.6$	

* Kane, *loc. cit.*, Magnetic Declination, p. 5.

PORT FOULKE.

Observations of altitudes of the sun for time, May 28, 1873.

Chron. H.	2 $\odot$	Chron. H.	2 $\odot$	Chron. H.	2 $\odot$
h. m. s.	° ′ ″	*h. m. s.*	° ′ ″	*h. m. s.*	° ′ ″
9 20 22	41 14 15	9 30 33.2	40 13 30	9 43 30	38 57 45
22 00	05 45	31 28.0	8 15	44 34	50 15
23 40	40 53 40	32 48.0	0 15	45 38	44 30
25 06	45 15	33 45.2	39 54 30	46 42	37 45
26 31.2	36 45	34 58.0	47 00	47 46	31 15
9 23 31.8	40 55 08	9 32 42.5	40 00 42	9 45 38	38 44 18

For time, 3 sets of 5 readings each.

			° ′	° ′	° ′
		2 $\odot$	40 55.1	40 0.7	38 44.3
		i	+ 0.1	+ 0.1	+ 0.1
		$2p$	+ 0.3	+ 0.3	+ 0.3
		$2r$	— 5.4	— 5.5	— 5.7
		$2s$	— 31.6	— 31.6	— 31.6
	° ′	$2A$	40 18.5	39 24.0	38 7.4
90°—ϕ	11 41.7	A	20 9.2_5	19 42.0	19 3.7
δ_0	21 35.8, 8, 9	sin A	0.34455	0.33710	0.32658
	33 17.5, 5, 6	sin M	0.54888	0.54890	0.54893
		Difference	—0.20433	— 0.21180	— 0.22235
log ϕ_c	9.30685	Log	9.31033_n	9.32593_n	9.34704_n
log δ_c	9.96839	Constant	9.27524	9.27524	9.27524
Constant	9.27524	Difference	0.03509_n	0.05069_n	0.07180_n
		cos τ	—0.0842.	— 0.1238.	— 0.1798.
			h. m. s.	*h. m. s.*	*h. m. s.*
		τ	6 19 19	6 28 27	6 41 26
		Equation	— 2 57	— 2 57	— 2 57
		Mean time	6 16 22	6 25 30	6 38 29
		H	9 23 32	9 32 42	9 45 38
		Fast	3 7 10	3 7 12	3 7 9

Chronometer H fast $3^h\ 7^m.17$.

LONGITUDE OF POLARIS HOUSE.

RECAPITULATION OF RESULTS.

	h.	m.
1873, May 6, by lunar distances *	4	51.2
May 15, by chronometer-difference, Van Rensselaer Harbor		51.1
May 26, by solar eclipse		51.3
Mean	4	51.2
May 28, by chronometer-difference, Port Foulke, east		0.4
from Greenwich, Port Foulke, west	4	50.8

therefore, for Port Foulke, 4^h 51^m instead of 4^h $52^m.0$, may be nearer the truth, and should be adopted.

From former times, the best results are:—

	h.	m.	h.	m.
1860, by chronometer 1062 from Boston	4	50.1	4	50.3
by chronometer 740 from Boston		50.5		

By disappearances of ♃'s first satellite:—

	h.	m.	h.	m.
1860, 1 observation by A. Sonntag	4	51.2	4	51.7
1861, 3 observations by H. G. Radcliff		52.3		
Port Foulke longitude, mean			4	51.0

The result 4^m $54^m.4$, by chronometer 2007, and the result 4^h $55^m.8$, by estimating the geodetic difference to Van Rensselaer Harbor with Dr. Kane's longitude, 4^h $43^m.5$, are too far out.

We have, therefore, in these high northern latitudes, two well-determined positions:—

I. Port Foulke, latitude 78° 18′.0, longitude 4^h $51^m.0$ west,
or Polaris House, latitude 78° 23′.4, longitude 4^h $51^m.4$ west.
II. Van Rensselaer Harbor, latitude 78° 37′.1, longitude 4^h $43^m.5$ west,

Or, respectively, $17^m.2$, $16^m.8$, and $24^m.7$ east of Washington,
Or, in arc, 4° 18′, 4° 12′, and 6° 10′ east of Washington.

* Corresponding observations made at Washington on the same day will bring this result up to $51^m.6$, as the American Ephemeris was about −10″ in error.

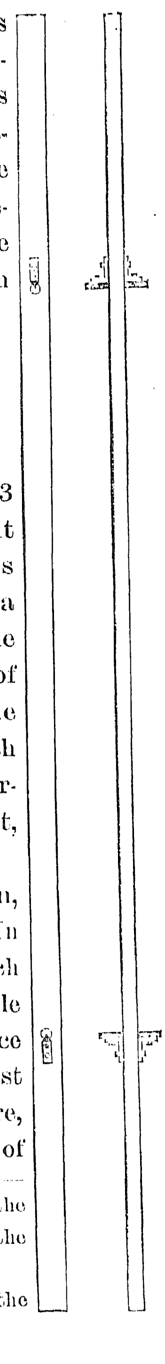
PENDULUM EXPERIMENTS.

PENDULUM-EXPERIMENTS.

The pendulum-observations recorded hereafter were made with the Hayes pendulum, which had been swung at Cambridge, at Port Foulke, and at Washington, D. C. Then it was used by the United States Arctic expedition at Polaris Bay and at Polaris House, where it was abandoned, because our means of transportation were very limited. As the instrument is not in our hands, we quote the description of it given by Mr. Charles A. Schott:* "It is an invariable, reversible brass pendulum, perfectly symmetrical in all its parts, as shown in the annexed figure. It is very nearly synchronous, though not convertible, as its form indicates. Its—

Total length is	5 feet 7.75 inches.
Width	1.4 inches.
Thickness	0.7 inches.
Distance between the knife-edges	39.4 inches.

The steel knife-edges are 14.2 inches from the ends of the bar, 3 inches long, 0.3 inch high, and 0.27 inch wide at the base; their section is triangular. The weight is 21.92 pounds; hence its specific gravity nearly $8\frac{1}{2}$. The knife-edge, which runs through a perforation of the bar, rests upon steel plates. They are screwed to a brass plate, and supported by a heavy block of wood, which is fastened to the case in which the pendulum swings. There is no adjustment for horizontality of the supporting steel plates other than what is given by the vertical position of the case. The arc of vibration is read off on a scale at the bottom of the case, which has a glass door in front, permitting a view of the whole pendulum. Two† thermometers are permanently fastened inside the box; one just above the support, the other on a level with the swinging knife-edge."



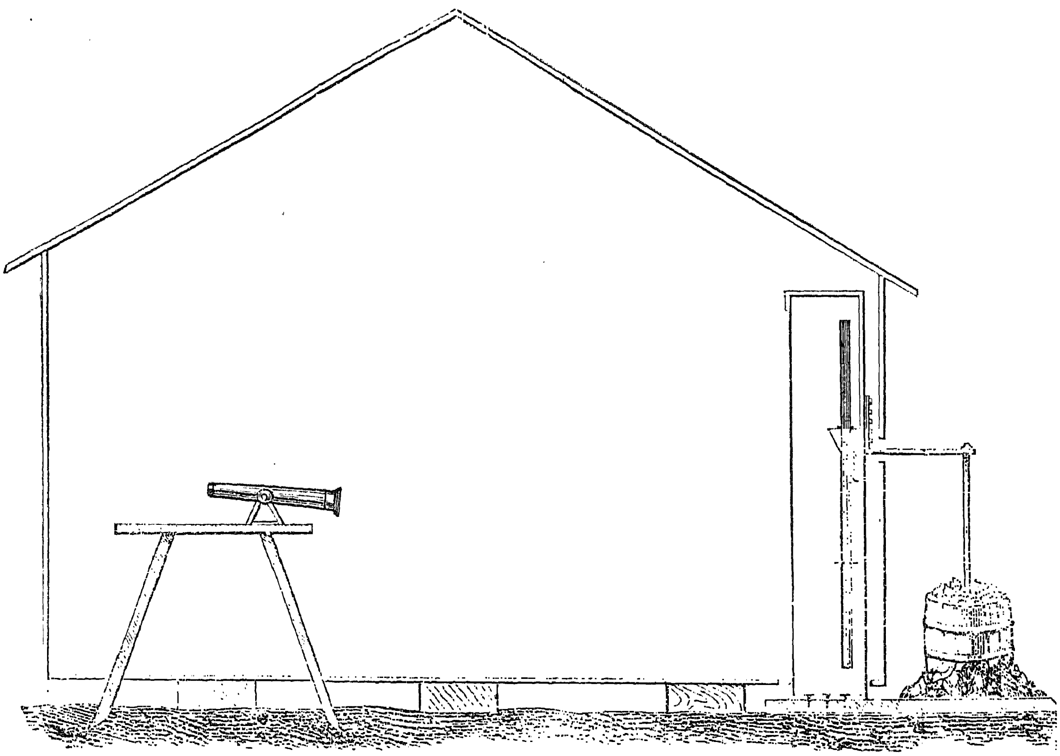
$\frac{1}{15}$ of real size.

As the description of the observatory at Polaris Bay has already been given, we limit ourselves here merely to stating how the pendulum was mounted. In order to disconnect the instrument as far as possible from the small hut in which it was swung, a square hole was cut through the floor of the latter, in the middle of the western wall of the observatory. Underneath this opening a heavy piece of timber was frozen solid to the ground. As the floor of the building did not rest directly on the soil, but was placed on beams of oak, the plank, mentioned before, was entirely isolated from the observatory, and became as firm under the influence of

* Physical Observations in the Arctic Seas. By Isaac J. Hayes. Reduced and discussed at the expense of the Smithsonian Institution, by Charles A. Schott, Washington City. Published by the Smithsonian Institution.

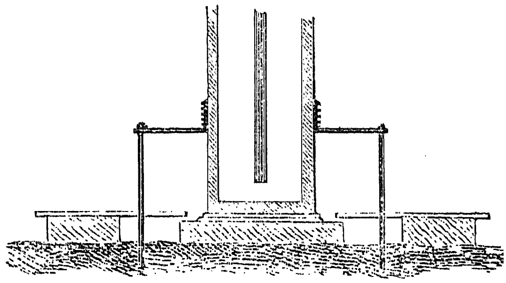
† As will be seen hereafter, a third thermometer was fastened inside the box at the time the experiments were made at Polaris House.

the low temperature, after the course of a few days, as the frozen soil itself, upon which it rested. On this piece of timber the pendulum-box was screwed in such a manner that the plane in which the pendulum was to be swung was exactly in that of the meridian, so that the utmost steadiness would be secured. I placed a strong barrel outside the observatory on the same plank on which the pendulum-box rested. The barrel was surrounded by a heap of gravel, which was moistened with sea-water in order to cement it in a solid manner to the plank. After this was done, we cut a hole through the western wall of the observatory, exactly behind the place where the pendulum-box was fastened. A half-inch iron bar, bent at right angle, was passed through this hole, and one end of it was fastened to the back wall of the box by means of five screws. The other end, (see diagram,) which



was about 3 feet above the center of the barrel, was screwed to a 3-inch iron bar, which was set up nearly perpendicular in the keg. After having accomplished the work so far, the barrel was filled with gravel and sand, over which we poured some water. Before the mass was frozen hard, I leveled the pendulum-box as nearly as could be done; and when it was found to be tolerably level, the bar outside was fastened by means of ropes to the wall of the observatory, in order to prevent it from giving way and from disturbing the position of the box. After two days had elapsed, the gravel was frozen very solid, and the ropes were removed. It was found that the box had not changed its level, but at the same time I saw that it was not quite as steady as I had anticipated. To secure it better, a hole of 3 inches diameter was drilled through the floor of the observatory 1 foot north of the box, and another one of the same diameter, and at the same distance south of it. Through each of these holes an iron bar, 1 inch thick and 3 feet long, was driven into the frozen soil, and connected with the box by means of two other iron bars bent at right angles, similar to

the one mentioned above, and screwed together in a similar manner, as shown in the accompanying small diagram. In this way sufficient stability was obtained. In order to tell the steadiness of the



box, I placed a glass dish filled with ether on the solid block of wood supporting the knife-edges of the pendulum, and placed some semen lycopodii on the surface of the fluid. After this was done I ordered the blacksmith to strike with a heavy sledge-hammer upon the floor of the observatory, and found that no vibration was communicated to the liquid. Thereafter I could be satisfied that the box rested on a firm base.

Let us now describe how the experiments of vibration were conducted. The series of observations taken at Polaris Bay, which we propose to give here first, was begun January 5, 1872. One set was always taken in the morning by Mr. Meyer (telescope) and the writer, (chronometer,) and another one in the afternoon by Mr. Bryan (telescope) and the writer. The following scheme was adopted for observing:

	A. M. P. M.
First day, swinging face	1 and 3
Second day, swinging face	2 and 4
Third day, swinging face	4 and 2
Fourth day, swinging face	3 and 1
Fifth day, swinging face	3 and 1
Etc	4 and 2

According to Mr. Schott's suggestion, the nine series of observations, making one set, were taken at intervals of 15 minutes or at multiples of 15 minutes. Suppose the experiment—

Began at	$0^h\ 0^m$
We observed again at	15^m
We observed again at	30^m
We observed again at	$1^h\ 00^m$
We observed again at	$2^h\ 00^m$
We observed again at	$3^h\ 00^m$
We observed again at	$3^h\ 30^m$
We observed again at	$3^h\ 45^m$
And ended at	$4^h\ 00^m$*

The vibrations (performed in the plane of the meridian) were observed with a small direct-vision telescope, placed about 8 feet east of the face of the pendulum. The telescope was screwed to the transit-stand, the legs of which rested on the soil, to which they were frozen.

The point of the swinging knife-edge served as a mark, and observations were made with vibration from right (R) to left, (L,) (north to south,) and from left to right, in order to correct for

* In two instances we observed till 6 hours.

eccentricity of mark. Each set was begun with R. An arc of a circle, of 39.25 inches radius, divided from the middle, each way, to 5°, with subdivisions of tenths of degrees, was placed over the swinging knife-edge, and the extreme excursions to the right and left were noted. The times are recorded by sidereal chronometer A, which was compared with five box-chronometers by means of a pocket-chronometer before and after each set of observations was taken.

The vertical thread of the telescope was pointed to the zero of the scale, which itself is placed over the knife-edge when at rest.

The pendulum was swung in four different positions, designated by the number stamped on the rod near each knife-edge. The number facing the telescope and swinging thus indicates the position. The numbers 1 and 2 are on one side, and 3 and 4 on the reverse.

The steel plates upon which the knife-edges rested were leveled by a small spirit-level every time before the set was begun, when the door of the box was closed, and kept shut till the set of nine series was finished.

The same position of the knife-edge on the steel plate was secured by means of a fine line marked vertically on the side of the plate. The knife-edge was made to rest just above this line, and its middle position, with respect to the opening left for the body of the rod, was secured by a brass fork stuck over the rod until it rested against the back of the box. The fork was always removed before the pendulum was swung, and every precaution was taken to keep the knife-edges sharp and clean.

The elevation of the lower knife-edge above the half-tide level was found to be 36.5 feet. The geological formation of Polaris Bay and its whole vicinity is upper Silurian limestone, covered by drift, partly of the same material. It was not supposed that the limestone could contain any large cavities which might influence the vibrations of the pendulum.

Before giving the record of vibrations we propose to insert the comparisons of the chronometers. Unfortunately the corresponding observations for time are lost, but in the record of the tidal observations we found some rates of chronometer Z, (standard,) as deduced at the time. We find recorded for—

December 11, 1871, chronometer Z fast on Greenwich	$0^h\ 26^m\ 12^s.3$
December 15, 1871, chronometer Z fast on Greenwich	$26^m\ 21^s.9$
January 2, 1872, chronometer Z fast on Greenwich	$27^m\ 05^s.1$
January 4, 1872, chronometer Z fast on Greenwich	$27^m\ 09^s.9$
January 6, 1872, chronometer Z fast on Greenwich	$27^m\ 14^s.7$
January 8, 1872, chronometer Z fast on Greenwich	$27^m\ 19^s.5$

It is believed that the above chronometer errors and rates can be relied upon. A glance at our chronometer journal from later dates—the portion that was saved—beginning September 21, 1872, will show how very uniformly the time-pieces kept their respective rates, which agree substantially with those given above. As has been mentioned before, the chronometer (sidereal chronometer A) which was used to record the times of transits was compared before and after each set of experiments with five box-chronometers by means of a pocket-chronometer, (F.) Those comparisons that could be saved will be given after the record of the experiments of vibrations.

Set 1, face 1, January 5, a. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
6 36 19.8	6 38 10.6	6 40 01.7	6 41 52.7	At 6^{h} 35^{m}, arc = 1°.49
29.8	20.7	11.8	42 02.8	1°.56
39.7	30.7	21.7	12.8	Temperature = 65°.0
49.7	40.7	31.7	22.8	47°.1
59.8	50.8	41.7	32.8	Barometer = 29.704
37 09.8	39 00.7	51.7	42.8	
19.7	10.8	41 01.8	52.8	
29.7	20.7	11.7	43 02.8	
39.8	30.7	21.7	12.9	
49.8	40.7	31.7	22.9	
59.7	50.8	41.8	32.8	
6 37 09.75	6 39 00.72	6 40 51.73	6 42 42.81	
6 54 34.7	6 55 25.7	6 56 16.8	6 57 07.7	At 6^{h} 58^{m}, arc = 0°.90
44.7	35.6	26.7	17.8	0°.95
54.7	45.7	36.8	27.8	Temperature = 67°.1
55 04.7	55.6	46.7	37.8	51°.2
14.8	56 05.8	56.8	47.8	Barometer = 29.701
6 54 54.72	6 55 45.68	6 56 36.76	6 57 27.78	
7 06 19.5	7 07 10.5	7 08 01.6	7 08 52.6	At 7^{h} 10^{m}, arc = 0°.90
29.6	20.5	11.5	09 02.7	0°.89
39.5	30.5	21.5	12.6	Temperature = 68°.1
49.5	40.5	31.5	22.5	52°.4
59.5	50.5	41.5	32.6	
7 06 39.52	7 07 30.5	7 08 21.52	7 09 12.6	
7 36 19.2	7 37 10.2	7 38 01.3	7 38 52.2	At 7^{h} 40^{m}, arc = 0°.59
29.2	20.2	11.3	39 02.3	0°.65
39.1	30.3	21.2	12.4	Temperature = 69°.9
49.1	40.2	31.3	22.3	54°.5
59.2	50.3	41.3	32.4	Barometer = 29.698
7 36 39.16	7 37 30.24	7 38 21.28	7 39 12.32	
8 36 18.9	8 37 09.9	8 38 00.9	8 38 51.9	At 8^{h} 40^{m}, arc = 0°.37
28.8	19.9	10.9	39 01.9	0°.39
38.8	29.8	20.9	11.9	Temperature = 67°.6
48.9	39.7	30.9	22.0	52°.1
58.9	49.9	41.0	32.0	Barometer = 29.697
8 36 38.86	8 37 29.84	8 38 20.92	8 39 11.94	

Set 1, face 1, January 5, a. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
9 41 28.6	9 42 19.8	9 43 10.8	9 44 01.7	At 9^h 14^m, arc = { 0°.19
38.6	29.8	20.7	11.8	0°.21
48.5	39.7	30.7	21.8	Temperature = { 60°.4]
58.6	49.8	40.7	31.8	44°.9
42 08.7	59.8	50.8	41.7	Barometer = 29.702
9 41 48.6	9 42 39.78	9 43 30.74	9 44 21.76	
10 06 09.9	10 07 00.2	10 07 52.0	10 08 43.0	At 10^h 10^m, arc = { 0°.14
20.0	11.0	08 02.0	53.2	0°.16
29.9	21.0	12.1	09 03.1	Temperature = { 57°.4
40.1	31.0	22.2	13.0	42°.8
50.2	41.0	32.1	23.2	Barometer = 29.710
10 06 30.02	10 07 21.04	10 08 12.08	10 09 03.10	
10 21 19.0	10 22 10.1	10 23 01.0	10 23 52.1	At 10^h 25^m, arc = { 0°.12
29.0	20.1	11.0	24 02.0	0°.14
39.0	30.0	21.0	12.1	Temperature = { 55°.8
49.0	39.9	31.0	22.1	42°.5
59.0	50.0	41.0	32.1	Barometer = 29.716
10 21 39.0	10 22 30.02	10 23 21.0	10 24 12.08	
10 36 19.9	10 38 11.0	10 40 02.0	10 41 53.2	At 10^h 41^m, arc = { 0°.08
30.0	21.0	11.9	42 03.3	0°.10
39.9	30.9	22.0	13.3	Temperature = { 53°.2
49.9	40.9	32.0	23.2	40°.0
37 00.0	51.0	42.1	33.2	Barometer = 29.722
10.0	39 01.0	52.1	43.3	
19.9	10.9	41 02.0	53.3	
30.0	20.9	12.1	43 03.3	
40.0	31.0	22.2	13.3	
50.0	41.0	32.1	23.3	
38 00.0	51.0	42.2	33.3	
10 37 09.96	10 39 00.96	10 40 52.06	10 42 43.27	

Set 2, face 3, January 5, p. m.

R.			L.			R.			L.			
h.	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*	*s.*	
11	52	31.9	11	54	23.2	11	56	14.6	11	58	05.6	Bryan and Bessels.
		42.0			33.2			24.5			15.5	At $11^h\ 50^m$, arc = { 2°.45
		52.0			43.3			34.4			25.6	2°.38
	53	02.2			53.3			44.5			35.6	Temperature = { 45°.2
		12.2		55	03.3			54.5			45.6	32°.5
		22.1			13.2		57	04.6			55.6	Barometer = 29.676
		32.2			23.3			14.6		59	05.7	
		42.1			33.3			24.6			15.6	
		52.2			43.4			34.6			25.6	
	54	02.2			53.5			44.5			35.7	
		12.1		56	03.5			54.6			45.6	
11	53	22.11	10	55	13.32	11	57	04.55	11	58	55.61	
12	07	31.1	12	08	22.1	12	09	13.2	12	10	04.3	At $12^h\ 11^m$, arc = { 1°.59
		41.1			32.2			23.2			14.4	1°.51
		51.2			42.1			33.3			24.5	Temperature = { 44°.8
	08	01.2			52.1			43.3			34.5	33°.9
		11.2		09	02.3			53.3			44.4	Barometer = 29.685
12	07	51.16	12	08	42.16	12	09	33.26	12	10	24.42	
12	22	31.9	11	23	23.1	12	24	14.1	12	25	05.1	At $12^h\ 26^m$, arc = { 1°.28
		42.0			33.1			24.1			15.2	1°.21
		52.1			43.0			34.1			25.1	Temperature = { 46°.1
	23	02.1			53.1			44.1			35.0	34°.6
		12.0		24	03.1			54.2			45.2	Barometer = 29.696
12	22	52.02	12	23	43.08	12	24	34.12	12	25	25.12	
12	52	31.6	12	53	22.8	12	54	13.8	12	55	04.9	At $12^h\ 56^m$, arc = { 0°.79
		41.6			32.7			23.7			14.8	0°.78
		51.7			42.8			33.7			24.9	Temperature = { 50°.2
	53	01.8			52.8			43.8			34.8	36°.2
		11.8		54	02.8			53.8			44.9	Barometer = 29.704
12	52	51.7	12	53	42.78	12	54	33.76	12	55	24.86	
1	52	31.0	1	53	22.0	1	54	13.1	1	55	04.1	At $1^h\ 56^m$, arc = { 0°.42
		41.0			32.0			23.1			14.1	0°.39
		51.0			41.9			33.0			24.0	Temperature = { 49°.2
	53	00.9			51.9			43.0			34.0	35°.0
		11.0		54	02.0			53.1			44.1	Barometer = 29.704
1	52	50.98	1	53	41.96	1	54	33.06	1	55	24.06	

Set 2, face 3, January 5, p. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
2 52 32.1	2 53 23.1	2 54 14.1	2 55 05.3	At $2^h\ 56^m$, arc = { 0°.26
32.1	33.2	24.2	15.2	0°.20 }
52.1	43.2	34.2	25.3	Temperature = { 50°.9
53 02.0	53.2	44.2	35.2	36°.9 }
12.2	54 03.1	54.2	45.2	Barometer = 29.687
2 52 52.1	2 53 43.16	2 54 34.18	2 55 25.24	
3 22 31.6	3 23 22.6	3 24 13.7	3 25 04.7	At $3^h\ 26^m$, arc = { 0°.20
41.5	32.7	23.6	14.7	0°.18 }
51.5	42.6	33.6	24.6	Temperature = { 53°.1
23 01.6	52.6	43.6	34.6	38°.4 }
11.7	24 02.6	53.6	44.6	Barometer = 29.681
3 22 51.58	3 23 42.62	3 24 43.62	3 25 24.64	
3 37 30.5	3 38 21.3	3 39 12.3	3 40 03.5	At $3^h\ 41^m$, arc = { 0°.19
40.4	31.3	22.4	13.5	0°.11 }
50.4	41.4	32.4	23.5	Temperature = { 53°.2
38 00.2	51.4	42.4	33.5	38°.1 }
10.2	39 01.3	52.4	43.4	Barometer = 29.680
3 37 50.38	3 38 41.34	3 39 32.38	3 40 23.48	
3 52 31.0	3 54 22.1	3 56 13.1	3 58 04.4	At $3^h\ 57^m$, arc = { 0°.16
41.1	32.1	23.2	14.5	0°.10 }
51.1	42.2	33.1	24.4	Temperature = { 52°.8
53 01.1	52.2	43.1	34.3	36°.9 }
11.2	55 02.2	53.2	44.3	Barometer = 29.675
21.1	12.2	57 03.3	54.5	
31.2	22.3	13.2	59 04.4	
41.1	32.2	23.2	14.5	
51.1	42.1	33.2	24.5	
54 01.2	52.2	43.3	34.4	
11.1	56 02.1	53.4	44.5	
3 53 21.12	3 55 12.17	3 57 03.22	3 58 54.43	

Set 3, face 2, January 6, a. m.

R.	L.	R.	L.	
h. m. s.	h. m. s.	h. m. s.	h. m. s.	
6 58 21.6	7 00 12.5	7 02 03.8	7 03 54.9	At 6^h 56^m, arc = { 2°.0
31.5	22.5	13.8	04 04.8	1°.89
41.5	32.6	23.7	14.9	Temperature = { 64°.9
51.6	42.6	33.7	24.8	57°.1
59 01.5	52.6	43.8	34.9	Barometer = 29.719
11.6	01 02.7	53.8	44.9	
21.5	12.6	03 03.8	54.9	
31.6	22.6	13.8	05 04.9	
41.6	32.7	23.7	14.9	
51.6	42.7	33.8	24.9	
7 00 01.5	52.8	43.8	34.9	
6 59 11.55	7 01 02.63	7 02 53.77	7 04 44.88	
7 13 20.4	7 14 11.5	7 15 02.5	7 15 53.6	At 7^h 17^m, arc = { 1°.29
30.4	21.5	12.6	16 03.6	1°.19
40.3	31.5	22.6	13.6	Temperature = { 66°.1
50.4	41.5	32.6	23.5	56°.0
14 00.4	51.6	42.6	33.6	Barometer = 29.726
7 13 40.38	7 14 31.52	7 15 22.58	7 16 13.58	
7 28 21.3	7 29 12.2	7 30 03.2	7 30 54.4	At 7^h 32^m, arc = { 1°.00
31.4	22.3	13.2	31 04.4	0°.92
41.3	32.2	23.3	14.3	Temperature = { 67°.0
51.2	42.1	33.3	24.4	57°.2
29 01.2	52.1	43.2	34.5	Barometer = 29.733
7 28 41.28	7 29 32.18	7 30 23.24	7 31 14.4	
7 58 20.9	7 59 11.9	8 00 02.9	8 00 54.0	At 8^h 03^m, arc = { 0°.70
30.8	21.8	13.0	01 04.1	0°.62
40.8	31.8	23.0	14.1	Temperature = { 67°.3
50.8	41.9	32.9	24.0	57°.1
59 00.9	51.8	42.9	34.0	Barometer = 29.739
7 58 40.84	7 59 31.84	8 00 22.98	8 01 14.04	
8 58 21.9	8 59 13.0	9 00 04.2	9 00 55.1	At 9^h 02^m, arc = { 0°.37
32.0	23.0	14.2	01 05.1	0°.29
42.0	33.1	24.1	15.2	Temperature = { 59°.9
52.0	43.0	34.1	25.1	53°.1
59 02.1	53.1	44.0	35.1	Barometer = 29.750
8 58 42.0	8 59 33.04	9 00 24.12	9 01 15.12	

Set 3, face 2, January 6, a. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
9 58 21.1	9 59 12.1	10 00 03.0	10 00 54.0	At $10^h\ 02^m$, arc = { 0°.23
31.0	22.0	13.1	01 04.1	0°.15
41.0	32.0	23.0	14.1	Temperature = { 63°.0
51.0	42.0	33.1	24.0	49°.5
59 01.0	52.0	43.1	34.2	Barometer = 29.788
9 58 41.02	9 59 32.02	10 00 23.06	10 01 14.08	
10 28 20.4	10 29 11.3	10 30 02.5	10 30 53.6	At $10^h\ 31^m$, arc = { 0°.21
30.5	21.4	12.5	31 03.6	0°.13
40.4	31.5	22.6	13.6	Temperature = { 63°.8
50.4	41.5	32.6	23.6	50°.9
29 00.4	51.4	42.5	33.6	Barometer = 29.792
10 28 40.42	10 29 31.42	10 30 22.54	10 31 13.6	
10 43 21.2	10 44 12.2	10 45 03.1	10 45 54.2	At $10^h\ 47^m$, arc = { 0°.10
31.2	22.2	13.2	46 04.2	0°.17
41.1	32.2	23.2	14.2	Temperature = { 64°.1
51.2	42.1	33.2	24.2	51°.0
44 01.2	52.1	43.2	34.2	Barometer = 29.795
10 43 41.18	10 44 32.16	10 45 23.18	10 46 14.2	
10 58 21.9	11 00 12.9	11 02 04.1	11 03 55.0	At $11^h\ 06^m$, arc = { 0°.15
31.9	22.9	14.1	04 05.1	0°.08
41.8	32.9	24.1	15.2	Temperature = { 64°.3
51.7	42.9	34.0	25.1	51°.8
59 01.8	52.9	44.0	35.1	Barometer = 29.798
11.8	01 02.9	54.1	45.1	
21.7	13.0	03 04.2	55.0	
31.7	23.0	14.1	05 05.1	
41.8	33.0	24.1	15.1	
51.9	42.9	34.1	25.1	
11 00 01.9	53.0	44.1	35.1	
10 59 11.81	11 01 02.94	11 02 54.09	11 04 45.09	

Set 4, face 4, January 6, p. m.

R.			L.			R.			L.			
h.	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*	*s.*	
12	17	52.2	12	19	43.3	12	21	34.5	12	23	25.5	At $12^h\ 26^m$, arc = { 1°.71
	18	02.2			53.4			44.5			35.5	1°.75
		12.2		20	03.3			54.6			45.5	Temperature = { 59°.7
		22.1			13.4		22	04.5			55.6	48°.5
		32.2			23.4			14.5		24	05.6	Barometer = 29.900
		42.2			33.3			24.5			15.6	
		52.2			43.4			34.5			25.6	
	19	02.1			53.4			44.5			35.7	
		12.1		21	03.5			54.6			45.7	
		22.2			13.5		23	04.6			55.6	
		32.1			23.5			14.6		25	05.7	
12	18	42.16	12	20	33.4	12	22	24.54	12	24	15.6	
12	33	53.2	12	34	44.3	12	35	35.1	12	36	26.5	At $12^h\ 38^m$, arc = { 1°.45
	34	03.3			54.2			45.3			36.5	1°.49
		13.3		35	04.4			55.4			46.4	Temperature = { 60°.0
		23.3			14.4		36	05.5			56.6	49.0
		33.2			24.5			15.5		37	06.6	Barometer = 29.897
12	34	13.26	12	35	04.36	12	35	55.36	12	36	46.52	
12	47	53.9	12	48	45.1	12	49	36.2	12	50	27.2	At $12^h\ 52^m$, arc = { 1°.14
	48	04.0			55.1			46.2			37.3	1°.18
		14.0		49	05.1			56.3			47.3	Temperature = { 60°.9
		24.0			15.2		50	06.3			57.3	50°.0
		34.0			25.1			16.2		51	07.2	Barometer = 29.894
12	48	13.98	12	49	05.12	12	49	56.24	12	50	47.26	
1	17	53.7	1	18	44.8	1	19	35.8	1	20	26.7	At $1^h\ 23^m$, arc = { 0°.77
	18	03.7			54.8			45.8			36.8	0°.80
		13.7		19	04.7			55.7			46.9	Temperature = { 59°.8
		23.7			14.8		20	05.8			57.0	45°.3
		33.7			24.8			15.8		21	07.1	Barometer = 29.892
1	18	13.7	1	19	04.78	1	19	55.78	1	20	46.9	
2	17	52.9	2	18	43.9	2	19	35.0	2	20	26.0	At $2^h\ 22^m$, arc = { 0°.39
	18	03.0			54.0			45.1			36.1	0°.41
		12.9		19	03.9			55.0			46.0	Temperature = { 61°.4
		22.9			13.9		20	05.1			56.2	50°.6
		32.9			23.9			15.0		21	06.2	Barometer = 29.896
2	18	12.92	2	19	03.92	2	19	55.04	2	20	46.06	

Set 4, face 4, January 6, p. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
3 17 53.9	3 18 45.0	3 19 36.1	3 20 27.1	At $3^{h}\ 22^{m}$, arc = { 0°.21 / 0°.23
18 03.9	55.0	46.1	37.0	
14.0	19 05.1	56.1	47.1	Temperature = { 57°.0 / 49°.0
24.1	15.1	20 06.1	57.1	
34.1	25.1	16.1	21 07.1	Barometer = 29.891
3 18 14.0	3 19 05.06	3 19 56.1	3 20 47.08	
3 47 53.6	3 48 44.6	3 49 35.5	3 50 26.6	At $3^{h}\ 52^{m}$, arc = { 0°.16 / 0°.18
48 03.6	54.7	45.6	36.6	
13.6	49 04.6	55.6	46.6	Temperature = { 57°.9 / 49°.8
23.6	14.6	50 05.6	56.6	
33.5	24.6	15.6	51 06.6	
3 48 13.58	3 49 04.62	3 49 55.58	3 50 46.6	
4 03 36.3	4 04 27.2	4 05 18.3	4 06 09.5	At $4^{h}\ 07^{m}$, arc = { 0°.12 / 0°.15
46.3	37.3	28.3	19.5	
56.4	47.3	38.3	29.4	Temperature = { 58°.6 / 50°.0
04 06.4	57.3	48.3	39.4	
16.3	05 07.3	58.4	49.4	
4 03 56.34	4 04 47.28	4 05 38.32	4 06 29.44	
4 17 53.0	4 19 44.0	4 21 35.1	4 23 26.3	At $4^{h}\ 26^{m}$, arc = { 0°.11 / 0°.13
18 03.0	54.1	45.0	36.2	
13.0	20 04.0	55.1	46.2	Temperature = { 58°.7 / 50°.1
23.0	14.0	22 05.0	56.3	
33.0	24.0	15.0	24 06.3	Barometer = 29.899
43.0	34.0	25.1	16.3	
53.1	44.1	35.0	26.4	
19 03.0	54.1	45.1	36.4	
13.1	21 04.1	55.2	46.3	
23.0	14.1	23 05.2	56.3	
33.1	24.0	15.2	25 06.3	
4 18 43.03	4 20 34.05	4 22 25.09	4 24 16.3	

Set 5, face 4, January 8, a. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
6 55 19.8	6 57 10.9	6 59 02.1	6 59 53.1	At 6^h 54^m, arc = { 1°.20 / 1°.18 }
29.8	20.8	12.1	7 00 03.2	
39.9	30.8	22.1	13.1	Temperature = { 62°.5 / 52°.1 }
49.8	40.9	32.0	23.1	
59.8	50.9	42.1	33.1	Barometer = 29.778
56 09.8	58 00.9	52.1	43.1	
19.9	10.9	7 00 02.0	53.1	
29.9	21.0	12.1	01 03.2	
39.9	31.0	22.0	13.2	
49 9	41.0	32.1	23.1	
59.9	51.0	42.0	33.1	
6 56 09.85	6 58 00.92	6 59 52.06	7 00 43.13	
7 10 20.6	7 11 11.6	7 12 02.6	7 12 53.5	At 7^h 14^m, arc = { 0°.85 / 0°.90 }
30.6	21.7	12.6	13 03.6	
40.6	31.6	22.6	13.7	Temperature = { 64°.4 / 54°.0 }
50.5	41.6	32.6	23.7	
11 00.5	51.6	42.6	33.6	Barometer = 29.775
7 10 40.56	7 11 31.62	7 12 22.6	7 13 13.62	
7 25 21.4	7 26 12.3	7 27 03.4	7 27 54.6	At 7^h 29^m, arc = { 0°.67 / 0°.75 }
31.4	22 3	13.4	28 04.5	
41.3	32.3	23.5	14.6	Temperature = { 65°.2 / 53°.5 }
51.4	42.3	33.5	24.6	
26 01.3	52.3	43.5	34.5	Barometer = 29.773
7 25 41.36	7 26 32.3	7 27 23.46	7 28 14.56	
7 55 20.7	7 56 11.7	7 57 02.7	7 57 53.9	At 7^h 58^m, arc = { 0°.46 / 0°.53 }
30.6	21.7	12.8	58 03.9	
40.7	31.7	22.7	13.9	Temperature = { 66°.2 / 55°.0 }
50.7	41.7	32.7	23.9	
56 00.6	51.8	42.7	33.9	Barometer = 29.770
7 55 40.66	7 56 31.72	7 57 22.72	7 58 13.9	
8 55 19.6	8 56 10.6	8 57 01.6	8 57 52.6	At 8^h 58^m, arc = { 0°.23 / 0°.30 }
29.5	20.7	11.7	58 02.7	
39.6	30.6	21.7	12.7	Temperature = { 66°.8 / 58°.0 }
49.6	40.6	31.6	22.6	
59.6	50.6	41.6	32.6	Barometer = 29.754
8 55 39.58	8 56 30.62	8 57 21.64	8 58 12.64	

Set 5, face 4, January 8, a. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
9 55 34.6	9 56 25.6	9 57 16.6	9 58 07.7	At 9^h 59^m, arc = { 0°.13, 0°.20
44.6	35.5	26.6	17.6	
54.6	45.5	36.6	27.6	Temperature = { 64°.9, 50°.0
56 04.6	55.5	46.6	37.6	
14.5	57 05.6	56.6	47.6	Barometer = 29.751
9 55 54.58	9 56 45.54	9 57 36.6	9 58 27.62	
10 33 04.4	10 33 55.3	10 34 46.4	10 35 37.4	At 10^h 37^m, arc = { 0°.09, 0°.14
14.3	34 05.3	56.4	47.5	
24.3	15.3	35 06.4	57.5	Temperature = { 62°.3, 47°.8
34.3	25.3	16.4	36 07.6	
44.3	35.2	26.5	17.6	Barometer = 29.754
10 33 24.32	10 34 15.28	10 35 06.42	10 35 57,52	
10 40 20.6	10 41 11.7	10 42 02.6	10 42 53.7	At 10^h 43^m, arc = { 0°.05, 0°.12
30.6	21.6	12.7	43 03.7	
40.6	31.6	22.6	13.7	Temperature { 61°.6, 46°.7
50.6	41.6	32 6	23.7	
41 00.6	51.6	42.6	33.7	Barometer 29.758
10 40 40.6	10 41 31.62	10 42 22.62	10 43 13.7	
10 55 19.4	10 57 10.5	10 59 01.5	11 00 52.5	At 11^h 03^m, arc = { 0°.04, 0°.11
29.4	20.4	11.5	01 02.5	
39.3	30.1	21.5	12.5	Temperature = { 61°.7, 47°.0
49.4	40.4	31.5	22.5	
59.4	50.5	41.4	32.6	Barometer = 29.762
56 09.3	58 00.4	51.5	42.6	
19.3	10.5	11 00 01.5	52.6	
29.4	20.5	11.5	02 02.6	
39.4	30.5	21.5	12.6	
49.5	40.5	31.6	22.6	
59.4	50.5	41.6	32.6	
10 56 09.38	10 58 00.46	10 59 51.51	11 01 42.56	

Set 6, face 2, January 8, p. m.

R.			L.			R.			L.			
h.	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*	*s.*	
12	25	06.8	12	26	57.7	12	28	48.7	12	30	39.9	
		16.8		27	07.7			58.8			50.0	At $12^h\ 21^m$, arc = { 2°.58
		26.7			17.7		29	08.8		31	00.0	2°.66 }
		36.6			27.6			18.9			10.0	Temperature = { 57°.2
		46.7			37.6			28.8			20.0	42°.1 }
		56.7			47.6			38.8			30.0	Barometer = 29.771
	26	06.6			57.7			48.9			40.0	
		16.7		28	07.7			58.9			49.9	
		26.6			17.7		30	08.9		32	00.0	
		36.6			27.6			19.0			10.0	
		46.6			37.6			28.9			20.0	
12	25	56.67	12	27	47.65	12	29	38.85	12	31	29.98	
12	40	07.7	12	40	58.6	12	41	49.7	12	42	40.6	At $12^h\ 44^m$, arc = { 1°.66
		17.6		41	08.6			59.7			50.6	1°.72 }
		27.6			18.6		42	09.7		43	00.6	Temperature = { 57°.9
		37.6			28.6			19.7			10.6	44°.1 }
		47.6			38.6			29.6			20.6	Barometer = 29.772
12	40	27.62	12	41	18.6	12	42	09.68	12	43	00.6	
12	55	50.5	12	56	41.5	12	57	32.5	12	58	23.5	At $1^h\ 00^m$, arc = { 1°.25
	56	00.5			51.5			42.5			33.6	1°.32 }
		10.5		57	01.5			52.5			43.6	Temperature = { 58°.8
		20.5			11.6		58	02.6			53.6	45°.1 }
		30.4			21.5			12.5		59	03.7	Barometer = 29.774
12	56	10.48	12	57	01.52	12	57	52.52	12	58	43.6	
1	25	05.9	1	25	57.0	1	26	48.0	1	27	39.1	At $1^h\ 29^m$, arc = { 0°.80
		16.0		26	07.1			58.2			49.0	0°.86 }
		25.9			17.2		27	08.1			59.2	Temperature = { 59°.0
		36.0			27.1			18.0		28	09.2	45°.0 }
		46.0			37.1			28.1			19.2	Barometer = 29.775
1	25	25.96	1	26	17.1	1	27	08.08	1	27	59.14	
2	25	06.9	2	25	58.0	2	26	49.0	2	27	39.9	At $2^h\ 29^m$, arc = { 0°.38
		16.9		26	07.9			59.0			50.0	0°.42 }
		27.0			18.0		27	08.9		28	00.0	Temperature = { 57°.6
		37.0			28.0			19.0			10.0	41°.5 }
		47.0			38.0			28.9			20.1	Barometer = 29.762
2	25	26.96	2	26	17.98	2	27	08.96	2	28	00.0	

Set 6, face 2, January 8, p. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
3 25 07.7	3 25 58.7	3 26 49.8	3 27 40.6	At 3^{h} 29^{m}, arc = { 0°.20
17.7	26 08.7	59.7	50.7	0°.25
27.6	18.7	27 09.8	28 00.6	Temperature = { 55°.0
37.6	28.7	19.7	10.7	40°.5
47.6	38.6	29.6	20.6	Barometer = 29.761
3 25 27.64	3 26 18.68	3 27 09.72	3 28 00.64	
3 55 06.9	3 55 58.0	3 56 49.0	3 57 40.1	At 3^{h} 59^{m}, arc = { 0°.14
17.0	56 08.0	59.0	50.1	0°.20
27.0	18.0	57 09.0	58 00.1	Temperature = { 51°.2
37.0	28.0	19.1	10.1	37°.1
47.0	38.0	29.1	20.1	Barometer = 29.752
3 55 26.98	3 56 18.0	3 57 09.04	3 58 00.1	
4 10 07.6	4 10 58.7	4 11 49.5	4 12 40.6	At 4^{h} 14^{m}, arc = { 0°.11
17.6	11 08.7	59.6	50.6	0°.17
27.5	18.7	12 09.6	13 00.7	Temperature = { 49°.8
37.6	28.7	19.6	10.6	37°.0
47.6	38.6	29.6	20.6	Barometer = 29.748
4 10 27.58	4 11 18.68	4 12 09.58	4 13 00.62	
4 25 06.3	4 26 57.2	4 28 48.5	4 30 39.4	At 4^{h} 33^{m}, arc = { 0°.10
16.3	27 07.2	58.5	49.5	0°.15
26.1	17.3	29 08.5	59.5	Temperature = { 51°.2
36.1	27.2	18.5	31 09.6	40°.0
46.2	37.2	28.5	19.5	Barometer = 29.745
56.2	47.3	38.5	29.5	
26 06.2	57.4	48.5	39.5	
16.3	28 07.4	58.5	49.6	
26.2	17.4	30 08.5	59.6	
36.2	27.4	18.5	32 09.6	
46.2	37.4	28.4	19.6	
4 25 56.2	4 27 47.31	4 29 38.49	4 31 29.54	

Set 7, face 3, January 9, a. m.

R.			L.			R.			L.			
h.	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*	*s.*	
7	00	15.1	7	02	06.2	7	03	57.4	7	05	48.5	At $6^h\ 58^m$, arc = { 2°.40
		25.1			16.1		04	07.4			58.5	2°.44
		35.2			26.2			17.3		06	08.5	Temperature = { 66°.5
		45.2			36.1			27.3			18.5	52°.3
		55.1			46.2			37.3			28.5	Barometer = 29.665
	01	05.2			56.3			47.4			38.5	
		15.1		03	06.3			57.4			48.5	
		25.2			16.3		05	07.4			58.5	
		35.1			26.2			17.4		07	08.5	
		45.2			36.3			27.5			18.5	
		55.2			46.4			37.5			28.6	
7	01	05.15	7	02	56.24	7	04	47.39	7	06	38.51	
7	15	14.2	7	16	05.2	7	16	56.1	7	17	47.2	At $7^h\ 19^m$, arc = { 1°.63
		24.2			15.1		17	06.1			57.3	1°.67
		34.1			25.1			16.1		18	07.2	Temperature = { 65°.9
		44.2			35.1			26.1			17.3	52°.2
		54.2			45.1			36.2			27.1	Barometer = 29.664
7	15	34.18	7	16	25.12	7	17	16.12	7	18	07.22	
7	30	21.2	7	31	12.1	7	32	03.0	7	32	54.1	At $7^h\ 34^m$, arc = { 1°.28
		31.2			22.1			13.1		33	04.1	1°.32
		41.1			32.1			23.1			14.1	Temperature = { 64°.1
		51.1			42.0			33.0			24.2	51°.0
	31	01.1			52.0			43.0			34.1	Barometer = 29.658
7	30	41.14	7	31	32.06	7	32	23.04	7	33	14.12	
8	00	14.6	8	01	05.7	8	01	56.8	8	02	47.8	At $8^h\ 04^m$, arc = { 0°.82
		24.6			15.8		02	06.8			57.8	0°.87
		34.7			25.7			16.8		03	07.8	Temperature = { 58°.0
		44.8			35.8			26.8			17.9	45°.3
		54.8			45.7			36.7			27.9	Barometer = 29.650
8	00	34.7	8	01	25.74	8	02	16.78	8	03	07.84	
9	00	16.1	9	01	07.1	9	01	58.0	9	02	49.1	At $9^h\ 05^m$, arc = { 0°.42
		26.1			17.1		02	08.1			59.1	0°.49
		36.1			27.0			18.0		03	09.1	Temperature = { 57°.9
		46.1			37.1			28.0			19.1	44°.1
		56.0			47.0			38.1			29.1	Barometer = 29.665
9	00	36.08	9	01	27.06	9	02	18.04	9	03	09.10	

Set 7, face 3, January 9, a. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
10 00 15.1	10 01 06.1	10 01 57.2	10 02 48.2	At $10^h\,04^m$, arc = 0°.20
25.1	16.1	02 07.2	58.2	0°.26
35.1	26.1	17.2	03 08.2	Temperature = 51°.4
45.1	36.1	27.1	18.2	41°.3
55.1	46.1	37.1	28.2	Barometer = 29.650
10 00 35.1	10 01 26.1	10 02 17.16	10 03 08.2	
10 30 14.6	10 31 05.6	10 31 56.6	10 32 47.7	At $10^h\,34^m$, arc = 0°.14
24.6	15.6	32 06.7	57.6	0°.20
34.6	25.6	16.7	33 07.6	Temperature = 48°.2
44.6	35.5	26.7	17.7	36°.0
54.5	45.6	36.7	27.6	Barometer = 29.655
10 30 34.58	10 31 25.58	10 32 16.68	10 33 07.64	
10 45 15.3	10 46 06.3	10 46 57.4	10 47 48.5	At $10^h\,49^m$, arc = 0°.12
25.2	16.3	47 07.4	58.4	0°.18
35.2	26.3	17.3	48 08.4	Temperature = 47°.2
45.2	36.3	27.4	18.5	36°.8
55.2	46.4	37.4	28.5	Barometer = 29.659
10 45 35.22	10 46 26.32	10 47 17.38	10 48 08.46	
11 00 15.9	11 02 07.1	11 03 58.2	11 05 49.2	At $11^h\,08^m$, arc = 0°.10
25.9	17.1	04 08.2	59.3	0°.15
36.0	27.1	18.1	06 09.3	Temperature = 49°.3
46.1	37.1	28.1	19.2	38°.8
56.1	47.0	38.2	29.3	Barometer = 29.665
01 06.1	57.1	48.1	39.3	
16.1	03 07.2	58.2	49.3	
26.0	17.1	05 08.3	59.4	
36.1	27.1	18.3	07 09.4	
46.1	37.1	28.3	19.4	
56.1	47.1	38.2	29.5	
11 01 06.05	11 02 57.1	11 04 48.2	11 06 39.33	

Set 8, face 1, January 9, p. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
0 35 11.3	0 37 02.5	0 38 53.6	0 40 44.7	At $0^h\ 30^m$, arc = { 2°.90
21.3	12.5	39 03.6	54.7	2°.93
31.3	22.5	13.6	41 04.8	Temperature = { 62°.8
41.4	32.5	23.6	14.7	48°.9
51.4	42.5	33.6	24.7	Barometer = 29.648
36 01.4	52.6	43.6	34.8	
11.4	38 02.5	53.7	44.8	
21.5	12.5	40 03.7	54.8	
31.5	22.6	13.7	42 04.9	
41.5	32.6	23.7	14.9	
51.5	42.6	33.7	24.9	
0 36 01.41	0 37 52.54	0 39 43.65	0 41 34.79	
0 50 10.5	0 51 01.4	0 51 52.5	0 52 43.6	At $0^h\ 55^m$, arc = { 1°.81
20.5	11.5	52 02.5	53.5	1°.83
30.4	21.5	12.5	53 03.6	Temperature = { 62°.4
40.4	31.4	22.5	13.6	50°.0
50.4	41.4	32.5	23.6	Barometer = 29.665
0 50 30.44	0 51 21.44	0 52 12.5	0 53 03.58	
1 05 11.3	1 06 02.4	1 06 53.5	1 07 44.5	At $1^h\ 10^m$, arc = { 1°.42
21.3	12.4	07 03.4	54.5	1°.41
31.3	22.4	13.5	08 04.6	Temperature = { 62°.0
41.2	32.4	23.5	14.6	49°.1
51.3	42.5	33.5	24.6	Barometer = 29.669
1 05 31.28	1 06 22.42	1 07 13.48	1 08 04.56	
1 35 11.1	1 36 02.0	1 36 53.1	1 37 44.1	At $1^h\ 39^m$, arc = { 0°.91
21.1	12.1	37 03.2	54.3	0°.93
31.1	22.1	13.2	38 04.2	Temperature = { 58°.8
41.1	32.0	23.3	14.3	46°.0
51.1	42.1	33.3	24.4	Barometer = 29.671
1 35 31.1	1 36 22.06	1 37 13.22	1 38 04.26	
2 35 10.6	2 36 01.6	2 36 52.6	1 37 43.7	At $2^h\ 39^m$, arc = { 0°.48
20.5	11.6	37 02.6	53.6	0°.45
30.6	21.6	12.6	38 03.6	Temperature = { 59°.5
40.6	31.6	22.6	13.6	45°.4
50.6	41.6	32.6	23.6	Barometer = 29.660
2 35 30.58	2 36 21.6	2 37 12.6	1 38 03.62	

Set 8, face 1, January 9, p. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
3 35 11.9	3 36 02.9	3 36 55.8	3 37 45.1	At $3^h\ 40^m$, arc = { 0°.28
21.8	12.9	37 03.9	55.0	0°.25
31.9	22.9	14.0	38 05.0	Temperature = { 59°.5
41.9	32.9	24.0	15.0	45°.0
51.9	42.9	34.0	24.9	Barometer = 29.646
3 35 31.88	3 36 22.9	3 37 13.94	3 38 05.0	
4 05 11.6	4 06 02.6	4 06 53.6	4 07 44.6	At $4^h\ 10^m$, arc = { 0°.21
21.5	12.6	07 03.6	54.6	0°.19
31.5	22.6	13.6	08 04.7	Temperature = { 58°.6
41.5	32.6	23.6	14.7	44°.5
51.6	42.7	33.6	24.6	Barometer = 29.644
4 05 31.54	4 06 22.62	4 07 13.6	4 08 04.64	
4 20 10.4	4 21 01.3	4 21 52.4	4 22 43.5	At $4^h\ 20^m$, arc = { 0°.19
20.4	11.2	22 02.4	53.5	0°.17
30.5	21.2	12.4	23 03.4	Temperature = { 58°.4
40.3	31.3	22.5	13.4	45°.1
50.3	41.4	32.5	23.5	Barometer = 29.641
4 20 30.38	4 21 21.28	4 22 12.44	4 23 03.46	
4 35 11.2	4 37 02.1	4 38 53.3	4 40 44.4	At $4^h\ 44^m$, arc = { 0°.16
21.2	12.1	39 03.3	54.4	0°.14
31.2	22.3	13.3	41 04.4	Temperature = { 58°.5
41.2	32.2	23.3	14.5	46°.0
51.3	42.1	33.4	24.5	Barometer = 29.639
36 01.2	52.1	43.3	34.4	
11.2	38 02.1	53.4	44.4	
21.2	12.1	40 03.4	54.4	
31.2	22.1	13.4	42 04.4	
41.2	32.2	23.4	14.4	
51.2	42.2	33.4	24.5	
4 36 01.21	4 37 52.15	4 39 43.35	4 41 34.43	

Set 9, face 3, January 10, a. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
7 05 10.4	7 07 01.6	7 08 52.6	7 10 43.6	At 7^h 13^m, arc = { 1°.90, 1°.95
20.4	11.5	09 02.6	53.7	
30.3	21.5	12.6	11 03.7	Temperature = { 35°.3, 27°.5
40.4	31.4	22.6	13.6	
50.5	41.6	32.6	23.6	Barometer = 29.551
06 00.4	51.6	42.6	33.7	
10.5	08 01.5	52.6	43.7	
20.6	11.6	10 02.6	53.7	
30.5	21.6	12.6	12 03.7	
40.5	31.6	22.6	13.8	
50.5	41.6	32.6	23.7	
7 06 00.45	7 07 51.55	7 09 42.6	7 11 33.68	
7 20 09.3	7 21 00.3	7 21 51.4	7 22 42.4	At 7^h 24^m, arc = { 1°.55, 1°.60
19.3	10.3	22 01.4	52.5	
29.3	20.3	11.4	23 02.5	Temperature = { 35°.4, 27°.8
39.3	30.4	21.5	12.6	
49.4	40.4	31.5	22.6	Barometer = 29.548
7 20 29.32	7 21 20.34	7 22 11.44	7 23 02.52	
7 35 10.2	7 36 01.1	7 36 52.3	7 37 43.4	At 7^h 39^m, arc = { 1°.25, 1°.31
20.2	11.2	37 02.3	53.3	
30.1	21.1	12.3	38 03.3	Temperature = { 36°.1, 28°.0
40.2	31.2	22.3	13.4	
50.2	41.2	32.3	23.4	Barometer = 29.546
7 35 30.18	7 36 21.16	7 37 12.3	7 38 03.36	
8 05 09.7	8 06 00.7	8 06 51.8	8 07 42.8	At 8^h 09^m, arc = { 0°.75, 0°.79
19.7	10.8	07 01.8	52.8	
29.8	20.7	11.9	08 02.9	Temperature = { 34°.9, 24°.9
39.7	30.8	21.9	12.9	
49.8	40.7	31.9	22.9	Barometer = 29.542
8 05 29.74	8 06 20.74	8 07 11.86	8 08 02.86	
9 05 10.6	9 06 01.7	9 06 52.7	9 07 43.6	At 9^h 10^m, arc = { 0°.38, 0°.42
20.6	11.8	07 02.6	53.7	
30.6	21.7	12.7	08 03.7	Temperature = { 39°.9, 32°.0
40.6	31.6	22.7	13.8	
50.6	41.6	32.7	23.7	Barometer = 29.542
9 05 30.6	9 06 21.68	9 07 12.68	9 08 03.7	

Set 9, face 3, January 10, a. m.				
R.	L.	R.	L.	
h. m. s.	h. m. s.	h. m. s.	h. m. s.	
10 05 09.6	10 06 00.6	10 06 51.7	10 07 42.6	At 10^{h} 09^{m}, arc = { 0°.20
19.6	10.6	07 01.6	52.6	0°.23
29.6	20.7	11.5	08 02.6	Temperature = { 47°.3
39.6	30.6	21.6	12.6	35°.9
49.7	40.6	31.6	22.6	Barometer = 29.534
10 05 29.62	10 06 20.62	10 07 11.6	10 08 02.6	
10 35 11.1	10 36 02.0	10 36 52.9	10 37 44.1	At 10^{h} 39^{m}, arc = { 0°.14
21.1	11.9	37 02.9	54.0	0°.17
31.0	22.0	13.1	38 04.1	Temperature = { 46°.0
41.0	32.0	23.0	14.0	36°.1
51.0	42.0	33.0	24.0	Barometer = 29.534
10 35 31.04	10 36 21.98	10 37 12.98	10 38 04.04	
10 50 09.7	10 51 00.8	10 51 51.8	10 52 42.8	At 10^{h} 54^{m}, arc = { 0°.11
19.7	10.7	52 01.7	52.7	0°.14
29.7	20.8	11.8	53 02.8	Temperature = { 48°.1
39.8	30.7	21.8	12.8	38°.2
49.7	40.6	31.8	22.9	Barometer = 29.532
10 50 29.72	10 51 20.72	10 52 11.78	10 53 02.8	
11 05 10.6	11 07 01.5	11 08 52.5	11 10 43.5	At 11^{h} 13^{m}, arc = { 0°.10
20.5	11.6	09 02.6	53.6	0°.13
30.5	21.5	12.6	11 03.6	Temperature = { 50°.0
40.4	31.5	22.6	13.6	38°.8
50.5	41.5	32.6	23.7	Barometer = 29.530
06 00.5	51.4	42.5	33.7	
10.5	08 01.6	52.6	43.6	
20.6	11.6	10 02.6	53.6	
30.5	21.6	12.6	12 03.7	
40.6	31.6	22.6	13.7	
50.6	41.6	32.6	23.6	
11 06 00.53	11 07 51.55	11 09 42.58	11 11 33.63	

Set 10, face 1, January 10, p. m.

R.	L.	R.	L.	
h. m. s.	h. m. s.	h. m. s.	h. m. s.	
0 42 35.9	0 44 26.9	0 46 18.1	0 48 09.2	At $0^h\ 41^m$, arc = { 2°.77
45.9	37.0	28.1	19.3	2°.77 }
55.8	47.1	38.1	29.3	Temperature = { 50°.9
43 05.9	57.1	48.2	39.4	40°.2 }
15.9	45 07.1	58.2	49.4	Barometer = 29.558
25.9	17.1	47 08.2	59.4	
35.9	27.1	18.2	49 09.4	
46.0	37.0	28.1	19.4	
55.9	47.1	38.1	29.4	
44 06.0	57.1	48.1	39.4	
16.0	46 07.0	58.2	49.5	
0 43 25.92	0 45 17.05	0 47 08.15	0 48 59.37	
0 57 36.9	0 58 27.9	0 59 19.0	1 00 10.0	At $1^h\ 01^m$, arc = { 1°.89
46.9	37.8	29.1	19.9	1°.89 }
56.9	47.9	39.0	30.0	Temperature = { 48°.0
58 07.0	58.0	49.0	40.0	36°.6 }
16.9	59 08.1	59.0	50.1	Barometer = 29.554
0 57 56.92	0 58 47.94	0 59 39.02	1 00 30.0	
1 12 35.6	1 13 26.8	1 14 17.9	1 15 09.0	At $1^h\ 16^m$, arc = { 1°.43
45.6	36.8	27.9	19.0	1°.42 }
55.7	46.8	37.9	29.0	Temperature = { 44°.9
13 05.7	56.9	47.9	39.0	36°.0 }
15.7	14 06.9	57.9	49.0	Barometer = 29.550
1 12 55.66	1 13 46.84	1 14 37.9	1 15 29.0	
1 42 35.6	1 43 26.6	1 44 17.6	1 45 08.6	At $1^h\ 46^m$, arc = { 0°.93
45.5	36.5	27.6	18.7	0°.91 }
55.5	46.6	37.6	28.6	Temperature = { 40°.5
43 05.5	56.6	47.6	38.6	31°.0 }
15.5	44 06.6	57.6	48.6	Barometer = 29.545
1 42 55.52	1 43 46.58	1 44 37.6	1 45 28.62	
2 42 36.5	2 43 27.6	2 44 18.6	2 45 09.8	At $2^h\ 46^m$, arc = { 0°.47
46.6	37.6	28.6	19.6	0°.45 }
56.5	47.6	38.6	29.7	Temperature = { 47°.2
43 06.6	57.5	48.6	39.6	33°.9 }
16.6	44 07.6	58.7	49.8	Barometer = 29.529
2 42 56.56	2 43 47.58	2 44 38.62	2 45 29.7	

Set 10, face 1, January 10, p. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
3 42 35.6	3 43 26.6	3 44 17.7	3 45 08.7	At 3^h 46^m, arc = { 0°.28
45.6	36.5	27.6	18.7	0°.25
55.6	46.6	37.6	28.6	Temperature = { 51°.6
43 05.6	56.6	47.6	38.6	35°.3
15.6	44 06.6	57.7	48.6	Barometer = 29.528
3 42 55.6	3 43 46.58	3 44 37.64	3 45 28.64	
4 12 36.9	4 13 28.1	4 14 19.0	4 15 10.1	At 4^h 16^m, arc = { 0°.20
46.9	38.1	29.1	20.0	0°.19
56.9	48.1	39.1	30.1	Temperature = { 50°.9
13 07.1	58.1	49.0	40.1	35°.2
17.0	14 08.1	59.1	50.1	Barometer = 29.533
4 12 56.96	4 13 48.1	4 14 39.06	4 15 30.08	
4 27 35.7	4 28 26.8	4 29 17.8	4 30 08.9	At 4^h 31^m, arc = { 0°.18
45.7	36.8	27.8	18.9	0°.16
55.7	46.7	37.8	28.9	Temperature = { 51°.9
28 05.8	56.7	47.8	38.9	35°.2
15.8	29 06.8	57.9	48.9	Barometer = 29.538
4 27 55.74	4 28 46.76	4 29 37.82	4 30 28.9	
4 42 36.6	4 44 27.7	4 46 18.6	4 48 09.8	At 4^h 50^m, arc = { 0°.14
46.6	37.6	28.6	19.8	0°.12
56.6	47.6	38.6	29.7	Temperature = { 53°.1
43 06.6	57.6	48.7	39.8	39°.1
16.6	45 07.6	58.7	49.7	Barometer = 29.541
26.6	17.7	47 08.7	59.8	
36.6	27.6	18.7	49 09.8	
46.6	37.6	28.8	19.8	
56.6	47.6	38.8	29.8	
44 06.7	57.6	48.8	39.9	
16.7	46 07.6	58.8	49.9	
4 43 26.62	4 45 17.62	4 47 08.71	4 48 59.8	

Set 11, face 4, January 11, a. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
7 20 20.6	7 22 11.6	7 24 02.7	7 25 53.8	At 7^h 19^m, arc = { 3°.33
30.6	21.5	12.7	26 03.8	3°.39 }
40.5	31.6	22.6	13.8	Temperature = { 56°.4
50.6	41.6	32.7	23.7	45°.8 }
21 00.6	51.6	42.6	33.8	Barometer = 29.701
10.6	23 01.5	52.7	43.9	
20.5	11.6	25 02.7	53.9	
30.6	21.6	12.7	27 04.0	
40.6	31.7	22.8	14.1	
50.6	41.6	32.8	24.0	
22 00.5	51.6	42.8	34.1	
7 21 10.57	7 23 01.59	7 24 52.71	7 26 43.9	
7 35 19.6	7 36 10.6	7 37 01.6	7 37 52.6	At 7^h 39^m, arc = { 2°.17
29.5	20.6	11.6	38 02.6	2°.21 }
39.6	30.6	21.6	12.6	Temperature = { 52°.3
49.6	40.6	31.5	22.6	42°.1 }
59.6	50.5	41.5	32.7	Barometer = 29.706
7 35 39.58	7 36 30.58	7 37 21.56	7 38 12.62	
7 50 20.6	7 51 11.5	7 52 02.6	7 52 53.6	At 7^h 54^m, arc = { 1°.65
30.5	21.6	12.6	53 03.6	1°.73 }
40.5	31.6	22.6	13.6	Temperature = { 58°.3
50.6	41.6	32.6	23.6	44°.0 }
51 00.5	51.6	42.6	33.6	Barometer = 29.712
7 50 40.54	7 51 31.58	7 52 22.6	7 53 13.6	
8 20 20.1	8 21 11.1	8 22 02.1	8 22 53.2	At 8^h 24^m, arc = { 1°.01
30.1	21.1	12.1	23 03.1	1°.09 }
40.1	31.1	22.0	13.1	Temperature = { 60°.3
50.0	41.1	32.1	23.1	46°.1 }
21 00.1	51.1	42.1	33.1	Barometer = 29.717
8 20 40.08	8 21 31.1	8 22 22.08	8 23 13.12	
9 20 19.1	9 21 10.1	9 22 01.1	9 22 52.1	At 9^h 24^m, arc = { 0°.47
29.1	20.0	11.2	23 02.2	0°.51 }
39.0	30.1	21.0	12.2	Temperature = { 62°.2
49.1	40.1	31.1	22.2	47°.0 }
59.0	50.1	41.1	32.2	Barometer = 29.622
9 20 39.06	9 21 30.08	9 22 21.1	9 23 12.18	

Set 11, face 4, January 11, a. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
10 20 20.0	10 21 11.1	10 22 02.0	10 22 53.1	At $10^h\ 24^m$, arc = { $0^\circ.25$
30.1	21.1	12.1	23 03.2	$0^\circ.29$
40.1	31.0	22.0	13.1	Temperature = { $62^\circ.9$
50.1	41.0	32.1	23.1	$47^\circ.1$
21 00.0	51.0	42.0	33.1	Barometer = 29.723
10 20 40.06	10 21 31.04	10 22 22.04	10 23 13.12	
10 50 19.6	10 51 10.4	10 52 01.6	10 52 52.6	At $10^h\ 54^m$, arc = { $0^\circ.17$
29.6	20.4	11.5	53 02.6	$0^\circ.21$
39.5	30.4	21.6	12.6	Temperature = { $63^\circ.7$
49.5	40.3	31.5	22.6	$47^\circ.5$
59.5	50.4	41.6	32.6	Barometer = 29.723
10 50 39.54	10 51 30.38	10 52 21 56	10 12.6	
11 05 20.1	11 06 11.2	11 07 02.2	11 07 53.1	At $11^h\ 09^m$, arc = { $0^\circ.13$
30.1	21.1	12.1	08 03.2	$0^\circ.17$
40.1	31.1	22.1	13.1	Temperature = { $63^\circ.8$
50.2	41.1	32.1	23.1	$47^\circ.9$
06 00.1	51.1	42.1	33.2	Barometer = 29.725
11 05 40.12	11 06 31.12	11 07 22.12	11 08 13.14	
11 20 20.9	11 22 12.0	11 24 03.0	11 25 54.0	At $11^h\ 28^m$, arc = { $0^\circ.11$
30.9	21.9	13.0	26 04.1	$0^\circ.15$
40.9	32.0	23.0	14.1	Temperature = { $66^\circ.2$
50.9	41.9	33.0	24.0	$50^\circ.0$
21 01.0	52.0	43.0	34.0	Barometer = 29.726
10.9	23 02.0	53.0	44.1	
20.9	11.9	25 03.0	54.1	
30.9	22.0	13.0	27 04.1	
40.9	32.0	23.1	14.2	
50.9	42.0	33.0	24.2	
22 01.0	52.0	43.1	34.1	
11 21 10.92	11 23 01.97	11 24 53.02	11 26 44.09	

Set 12, face 2, January 11, p. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
12 35 15.6	12 37 06.7	12 38 57.8	0 40 48.9	At $12^h\ 43^m$, arc $= \begin{cases} 3^\circ.41 \\ 3^\circ.42 \end{cases}$
25.6	16.7	39 07.8	58.9	
35.6	26.7	17.8	41 09.0	Temperature $= \begin{cases} 55^\circ.5 \\ 47^\circ.1 \end{cases}$
45.6	36.7	27.8	19.0	
55.6	46.7	37.8	29.0	Barometer = 29.722
36 05.6	56.7	47.9	39.0	
15.6	38 06.8	57.9	49.0	
25.6	16.7	40 07.9	59.0	
35.6	26.7	17.9	42 09.0	
45.7	36.8	28.0	19.1	
55.6	46.8	38.0	29.1	
12 36 05.61	12 37 56.73	12 39 47.87	12 41 39.0	
12 50 16.6	12 51 07.7	12 51 58.7	12 52 49.7	At $12^h\ 54^m$, arc $= \begin{cases} 2^\circ.19 \\ 2^\circ.21 \end{cases}$
26.6	17.7	52 08.8	59.8	
36.6	27.6	18.7	53 09.8	Temperature $= \begin{cases} 54^\circ.7 \\ 43^\circ.6 \end{cases}$
46.6	37.6	28.7	19.8	
56.6	47.6	38.6	29.9	Barometer = 29.713
12 50 36.6	12 51 27.64	12 52 18.7	12 53 09.8	
1 05 15.6	1 06 06.6	1 06 57.5	1 07 48.6	At $1^h\ 09^m$, arc $= \begin{cases} 1^\circ.65 \\ 1^\circ.68 \end{cases}$
25.6	16.6	07 07.6	58.6	
35.5	26.6	17.6	08 08.7	Temperature $= \begin{cases} 54^\circ.7 \\ 43^\circ.8 \end{cases}$
45.5	36.6	27.6	18.6	
55.6	46.6	37.5	28.6	Barometer = 29.698
1 05 35.56	1 06 26.6	1 07 17.56	1 08 08.62	
1 35 15.1	1 36 06.1	1 36 57.1	1 37 48.1	At $1^h\ 39^m$, arc $= \begin{cases} 0^\circ.99 \\ 1^\circ.01 \end{cases}$
25.1	16.1	37 07.1	58.1	
35.1	26.0	17.0	38 08.2	Temperature $= \begin{cases} 62^\circ.1 \\ 48^\circ.1 \end{cases}$
45.0	36.1	27.1	18.1	
55.1	46.1	37.1	28.1	Barometer = 29.685
1 35 35.08	1 36 26.08	1 37 17.08	1 38 08.12	
2 35 15.9	2 36 07.0	2 36 58.1	2 37 48.9	At $2^h\ 39^m$, arc $= \begin{cases} 0^\circ.46 \\ 0^\circ.49 \end{cases}$
25.9	17.0	37 08.0	59.0	
35.9	26.9	18.0	38 08.9	Temperature $= \begin{cases} 64^\circ.9 \\ 49^\circ.4 \end{cases}$
45.9	36.9	27.9	19.0	
55.9	47.0	37.9	28.9	Barometer = 29.725
2 35 35.9	2 36 26.96	2 37 17.98	2 38 08.94	

Set 12, face 2, January 11, p. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
3 35 16.6	3 36 07.6	3 36 58.7	3 37 49.6	At 3^h 39^m, arc = 0°.25
26.6	17.6	37 08.8	59.7	0°.28
36.6	27.7	18.7	38 09.6	Temperature = 56°.9
46.6	37.6	28.7	19.7	42°.0
56.6	47.6	38.7	29.7	Barometer = 29.710
3 35 36.6	3 36 27.62	3 37 18.72	3 38 09.66	
4 05 15.9	4 06 06.9	4 06 58.0	4 07 49.0	At 4^h 09^m, arc = 0°.18
25.9	16.9	07 08.0	59.0	0°.21
35.9	26.9	17.9	08 09.0	Temperature = 56°.7
45.9	36.9	28.0	19.0	41°.6
56.0	46.9	37.9	28.9	Barometer = 29.707
4 05 35.92	4 06 26.9	4 07 17.96	4 08 08.98	
4 20 16.6	4 21 07.6	4 21 58.7	. . . .	At 4^h 23^m, arc = 0°.16
26.6	17.6	22 08.7	. .	0°.19
36.5	27.6	18.6	. .	Temperature = 55°.1
46.5	37.6	28.6	. .	40°.0
56.6	47.5	38.6	. .	Barometer = 29.702
4 20 36.56	4 21 27.58	4 22 18.64	. . . .	
4 35 15.1	4 37 06.1	4 38 57.1	4 40 48.3	At 4^h 43^m, arc = 0°.10
25.1	16 2	39 07.2	58.3	0°.13
35.1	26.1	17.2	41 08.3	Temperature = 54°.6
45.1	36.1	27.3	18.2	40°.2
55.2	46.1	37.3	28.2	Barometer = 29.699
36 05.1	56.1	47.3	38.2	
15.1	38 06.1	57.4	48.3	
25.2	16.2	40 07.3	58.4	
35.2	26.1	17.3	42 08.4	
45.2	36.1	27.4	18.4	
55.1	46.1	37.3	28.4	
4 36 05.14	4 37 56.12	4 39 47.28	4 41 38.31	

Set 13, face 2, January 12, a. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
5 12 09.8	5 14 00.9	5 15 52.0	5 17 43.1	At $5^h\ 20^m$, arc = { 1°.63
19.8	11.0	16 02.1	53.1	1°.68
29.8	21.0	12.1	18 03.1	Temperature = { 56°.3
39.8	31.0	22.0	13.1	43°.6
49.9	40.9	32.0	23.2	Barometer = 29.615
59.9	51.0	42.1	33.2	
13 09.9	15 01.0	52.1	43.1	
19.9	11.1	17 02.1	53.1	
29.9	21.0	12.0	19 03.2	
39.9	31.0	22.1	13.2	
49.9	41.0	32.0	23.2	
5 12 59.86	5 14 50.98	5 16 42.05	5 18 33.15	
5 27 14.7	5 28 05.7	5 28 56.7	5 29 47.6	At $5^h\ 31^m$, arc = { 1°.38
24.7	15.6	29 06.6	57.7	1°.45
34.7	25.6	16.7	30 07.7	Temperature = { 62°.8
44.6	35.6	26.6	17.8	42°.3
54.7	45.6	36.6	27.8	Barometer = 29.618
5 27 34.68	5 28 25.62	5 29 16.64	5 30 07.72	
5 42 09.6	5 43 00.6	5 43 51.6	5 44 42.5	At $5^h\ 46^m$, arc = { 0°.86
19.6	10.5	44 01.6	52.6	0°.93
29.6	20.6	11.6	45 02.6	Temperature = { 61°.9
39.5	30.5	21.5	12.6	46°.1
49.6	40.6	31.5	22.7	Barometer = 29.619
5 42 29.58	5 43 20.56	5 44 11.56	5 45 02.6	
6 12 10.9	6 13 02.0	6 13 53.1	6 14 44.1	At $6^h\ 16^m$, arc = { 0°.67
20.9	12.0	14 03.0	54.0	0°.57
31.1	22.0	13.0	15 04.1	Temperature = { 60°.8
41.0	32.0	23.0	14.0	45°.3
51.0	42.1	33.0	24.1	Barometer = 29.620
6 12 30.96	6 13 22.02	6 14 13.02	6 15 04.06	
7 12 09.8	7 13 00.6	7 13 51.6	7 14 42.6	At $7^h\ 16^m$, arc = { 0°.32
19.8	10.6	14 01.7	52.7	0°.40
29.8	20.6	11.7	15 02.7	Temperature = { 51°.1
39.8	30.6	21.6	12.8	37°.2
49.7	40.6	31.6	22.8	Barometer = 29.613
7 12 29.78	7 13 20.6	7 14 11.64	7 15 02.72	

Set 13, face 2, January 12, a. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
8 12 10.6	8 13 01.5	8 13 52.5	8 14 43.6	At $8^h\ 16^m$, arc = { $0^\circ.17$
20.4	11.5	14 02.5	53.6	$0^\circ.25$
30.4	21.5	12.5	15 03.5	Temperature = { $47^\circ.5$
40.5	31.4	22.5	13.5	$32^\circ.4$
50.5	41.4	32.5	23.6	Barometer = 29.609
8 12 30.48	8 13 21.46	8 14 12.5	8 15 03.56	
9 12 11.1	9 13 02.0	9 13 53.0	9 14 44.0	At $9^h\ 16^m$, arc = { $0^\circ.09$
21.1	12.0	14 03.0	53.9	$0^\circ.17$
31.1	22.0	13.0	15 04.0	Temperature = { $47^\circ.3$
41.0	32.0	23.0	14.0	$32^\circ.0$
51.0	42.0	33.0	24.0	Barometer = 29.628
9 12 31.06	9 13 22.0	9 14 13.0	9 15 03.98	
10 12 09.6	10 13 00.5	10 13 51.5	10 14 42.5	At $10^h\ 16^m$, arc = { $0^\circ.03$
19.6	10.5	14 01.5	52.5	$0^\circ.10$
29.5	20.6	11.5	15 02.5	Temperature = { $52^\circ.9$
39.6	30.5	21.5	12.5	$37^\circ.5$
49.6	40.5	31.5	22.5	Barometer = 29.626
10 12 29.58	10 13 20.52	10 14 11.5	10 15 02.5	
10 42 08.7	10 42 59.6	10 43 50.7	10 44 41.7	At $10^h\ 46^m$, arc = { $0^\circ.02$
18.6	43 09.7	44 00.7	51.6	$0^\circ.09$
28.6	19.7	10.7	45 01.7	Temperature = { $52^\circ.3$
38.6	29.7	20.7	11.7	$37^\circ.5$
48.6	39.6	30.6	21.7	Barometer = 29.629
10 42 28.62	10 43 19.66	10 44 10.68	10 45 01.68	
10 57 09.2	10 58 00.0	10 58 51.2	10 59 42.3	At $11^h\ 01^m$, arc = { $0^\circ.02$
19.3	10.2	59 01.2	52.3	$0^\circ.09$
29.2	20.2	11.2	11 00 02.4	Temperature = { $58^\circ.0$
39.1	30.1	21.2	12.4	$44^\circ.8$
49.1	40.1	31.2	22.4	Barometer = 29.633
10 57 29.18	10 58 20.12	10 59 11.2	11 00 02.36	
11 12 10.1	11 14 01.0	11 15 52.0	11 17 43.1	At $11^h\ 20^m$, arc = { $0^\circ.01$
20.1	10.9	16 02.0	53.1	$0^\circ.08$
30.0	21.0	12.1	18 03.1	Temperature = { $56^\circ.4$
40.0	30.9	22.1	13.1	$41^\circ.8$
50.0	40.9	32.1	23.2	Barometer = 29.637
13 00.0	51.0	42.1	33.2	
10.0	15 01.0	52.1	43.1	
19.9	11.0	17 02.1	53.1	
29.9	21.0	12.1	19 03.1	
39.9	31.0	22.1	13.2	
50.0	41.0	32.1	23.2	
11 12 59.99	11 14 50.97	11 16 42.08	11 18 33.14	

Set 14, face 4, January 12, p. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
0 50 11.6	0 52 02.6	0 53 53.7	0 55 45.0	At 0^h 49^m, arc = { $3^\circ.75$, $3^\circ.69$
21.6	12.6	54 03.8	55.0	
31.5	22.6	13.8	56 04.9	Temperature = { $48^\circ.4$, $32^\circ.0$
41.6	32.7	23.8	15.0	
51.6	42.6	33.7	25.0	Barometer = 29.672
51 01.6	52.7	43.8	34.9	
11.6	53 02.7	53.8	45.0	
21.6	12.7	55 03.9	55.0	
31.6	22.7	13.9	57 05.0	
41.6	32.7	23.9	15.0	
51.6	42.7	33.9	25.1	
0 51 01.59	0 52 52.66	0 54 43.82	0 56 34.99	
1 05 20.5	1 06 11.6	1 07 02.6	1 07 53.6	At 1^h 09^m, arc = { $2^\circ.38$, $2^\circ.35$
30.6	21.6	12.6	08 03.6	
40.5	31.6	22.6	13.7	Temperature = { $48^\circ.4$, $32^\circ.0$
50.5	41.6	32.6	23.7	
06 00.5	51.6	42.6	33.6	Barometer = 29.665
1 05 40.52	1 06 31.6	1 07 22.6	1 08 13.64	
1 20 11.6	1 21 02.6	1 21 53.6	1 22 44.6	At 1^h 24^m, arc = { $1^\circ.80$, $1^\circ.78$
21.6	12.6	22 03.7	54.7	
31.6	22.6	13.6	23 04.7	Temperature = { $47^\circ.9$, $30^\circ.6$
41.6	32.6	23.6	14.7	
51.6	42.6	33.6	24.6	Barometer = 29.662
1 20 31.6	1 21 22.6	1 22 13.62	1 23 04.66	
1 50 11.1	1 51 02.0	1 51 53.1	1 52 44.1	At 1^h 54^m, arc = { $1^\circ.10$, $1^\circ.08$
21.1	12.1	52 03.1	54.1	
31.1	22.1	13.1	53 04.2	Temperature = { $46^\circ.0$, $28^\circ.0$
41.1	32.0	23.1	14.2	
51.1	42.1	33.0	24.2	Barometer = 29.659
1 50 31.1	1 51 22.06	1 52 13.08	1 53 04.16	
2 50 12.0	2 51 03.0	2 51 54.0	2 52 44.9	At 2^h 54^m, arc = { $0^\circ.52$, $0^\circ.50$
22.0	13.0	52 04.0	55.0	
32.0	23.0	14.0	53 05.0	Temperature = { $47^\circ.3$, $27^\circ.0$
41.9	33.0	24.0	15.1	
51.9	43.0	34.0	25.0	Barometer = 29.684
2 50 31.96	2 51 23.0	2 52 14.0	2 53 05.0	

Set 14, face 4, January 12, p. m.

R.	L.	R.	L.	
h. m. s.	h. m. s.	h. m. s.	h. m. s.	
3 50 12.6	3 51 03.6	3 51 54.6	3 52 45.6	At 3^h 54^m, arc = { 0°.30
22.6	13.6	52 04.5	55.6	0°.28
32.6	23.6	14.5	53 05.6	Temperature = { 47°.0
42.6	33.6	24.5	15.6	25°.3
52.6	43.6	34.6	25.7	Barometer = 29.691
3 50 32.6	3 51 23.6	3 52 14.54	3 53 05.62	
4 50 11.2	4 51 02.2	4 51 53.2	4 52 44.2	At 4^h 54^m, arc = { 0°.19
21.2	12.2	52 03.3	54.2	0°.15
31.2	22.2	13.3	53 04.2	Temperature = { 54°.8
41.2	32.1	23.2	14.2	30°.7
51.2	42.1	33.3	24.3	Barometer = 29.678
4 50 31.2	4 51 22.16	4 52 13.26	4 53 04.22	
5 50 11.8	5 51 02.8	5 51 53.8	5 52 44.9	At 5^h 54^m, arc = { 0°.11
21.9	12.7	52 03.9	54.9	0°.09
31.9	22.7	13.9	53 04.9	Temperature = { 50°.9
42.0	32.7	23.9	15.0	28°.1
51.9	42.7	34.0	24.9	Barometer = 29.697
5 50 31.9	5 51 22.72	5 52 13.9	5 53 04.92	
6 20 11.2	6 21 02.1	6 21 53.1	6 22 44.1	At 6^h 24^m, arc = { 0°.10
21.2	12.1	22 03.2	54.0	0°.07
31.1	22.1	13.1	23 04.1	Temperature = { 59°.9
41.1	32.1	23.2	14.1	37°.7
51.1	42.1	33.1	24.1	Barometer = 29.703
6 20 31.14	6 21 22.1	6 22 13.14	6 23 04.08	
6 35 11.8	6 36 02.5	6 36 53.6	6 37 44.6	At 6^h 39^m, arc = { 0°.09
21.8	12.6	37 03.7	54.6	0°.05
31.7	22.6	13.7	38 04.6	Temperature = { 60°.9
41.5	32.6	23.6	14.6	38°.9
51.7	42.6	33.7	24.6	Barometer = 29.715
6 35 31.7	6 36 22.58	6 37 13.66	6 38 04.6	
6 50 12.5	6 52 03.5	6 53 54.5	6 55 45.6	At 6^h 58^m, arc = { 0°.07
22.6	13.5	54 04.6	55.5	0°.02
32.6	23.5	14.6	56 05.6	Temperature = { 58°.3
42.5	33.5	24.6	15.6	37°.1
52.6	43.4	34.6	25.6	Barometer = 29.721
51 02.6	53.5	44.6	35.5	
12.6	53 03.4	54.5	45.5	
22.6	13.6	55 04.6	55.6	
32.6	23.5	14.6	57 05.5	
42.6	33.5	24.6	15.5	
52.5	43.5	34.6	25.6	
6 51 02.57	6 52 53.49	6 54 44.58	6 56 35.55	

Set 15, face 1, January 13, a. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
5 35 05.1	5 36 56.1	5 38 47.2	5 40 38.4	At 5^h 34^m, arc = { 3°.74
15.1	37 06.2	57.3	48.5	3°.87
25.0	16.3	39 07.3	58.4	Temperature = { 56°.8
35.1	26.1	17.2	41 08.4	42°.4
45.1	36.2	27.2	18.5	Barometer = 29.775
55.1	46.2	37.2	28.4	
36 05.2	56.3	47.2	38.5	
15.1	38 06.2	57.3	48.5	At 5^h 45^m, arc = { 2°.88
25.1	16.2	40 07.4	58.5	2°.95
35.1	26.2	17.4	42 08.6	Temperature = { 55°.1
45.2	36.1	27.4	18.6	43°.1
5 35 55.11	5 37 46.19	5 39 37.28	5 41 28.48	
5 50 06.1	5 50 57.1	5 51 48.2	5 52 39.3	At 5^h 54^m, arc = { 2°.40
16.1	51 07.2	58.3	49.3	2°.37
26.2	17.2	52 08.2	59.3	Temperature = { 54°.8
36.2	27.2	18.2	53 09.3	43°.3
46.2	37.2	28.2	19.4	Barometer = 29.782
5 50 26.16	5 51 17.18	5 52 08.22	5 52 59.32	
6 05 05.2	6 05 56.1	6 06 47.1	6 07 38.1	At 6^h 09^m, arc = { 1°.78
15.2	06 06.2	57.2	48.3	1°.73
25.2	16.2	07 07.2	58.3	Temperature = { 55°.8
35.2	26.1	17.2	08 08.3	45°.0
45.2	36.1	27.2	18.2	Barometer = 29.796
6 05 25.2	6 06 16.14	6 07 07.18	6 07 58.24	
6 35 04.9	6 35 55.9	6 36 47.0	6 37 38.1	At 6^h 39^m, arc = { 1°.13
15.0	36 06.0	57.0	48.1	1°.11
25.0	15.9	37 07.1	58.2	Temperature = { 57°.7
35.0	26.0	17.1	38 08.1	44°.8
45.0	36.0	27.1	18.1	Barometer = 29.833
6 35 24.98	6 36 15.96	6 37 07.06	6 37 58.12	
7 35 04.3	7 35 55.2	7 36 46.4	7 37 37.4	At 7^h 39^m, arc = { 0°.50
14.3	36 05.2	56.3	47.4	0°.48
24.2	15.3	37 06.4	57.4	Temperature = { 62°.4
34.2	25.2	16.4	38 07.5	46°.2
44.2	35.3	26.3	17.4	Barometer = 29.783
7 35 24.24	7 36 15.24	7 37 06.36	7 37 57.42	

Set 15, face 1, January 13, a. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
8 35 05.6	8 35 56.6	8 36 47.5	8 37 38.6	At $8^h\ 39^m$, arc = 0°.27
15.6	36 06.6	57.4	48.6	0°.25
25.6	16.6	37 07.5	58.5	Temperature = 56°.9
35.5	26.6	17.5	38 08.6	40°.4
45.5	36.5	27.5	18.6	Barometer = 29.770
8 35 25.56	8 36 16.58	8 37 07.48	8 37 58.58	
9 35 06.7	9 35 57.6	9 36 48.5	9 37 39.6	At $9^h\ 39^m$, arc = 0°.13
16.6	36 07.7	58.6	49.6	0°.12
26.6	17.6	37 08.6	38 59.5	Temperature = 62°.1
36.6	27.6	18.6	09.6	43°.3
46.6	37.5	28.6	19.7	Barometer = 29.776
9 35 26.62	9 36 17.6	9 37 08.58	9 38 59.6	
10 35 05.6	10 35 56.6	10 36 47.6	10 37 38.6	At $10^h\ 39^m$, arc = 0°.10
15.6	36 06.7	57.7	48.6	0°.09
25.6	16.6	37 07.7	58.7	Temperature = 62°.4
35.7	26.6	17.7	38 08.7	43°.2
45.6	36.6	27.6	18.7	Barometer = 29.760
10 35 25.62	10 36 16.62	10 37 07.66	10 37 58.66	
11 05 05.2	11 05 56.1	10 06 47.2	10 07 38.1	At $11^h\ 09^m$, arc = 0°.05
15.2	06 06.2	57.2	48.1	0°.04
25.2	16.2	07 07.3	58.3	Temperature = 67°.3
35.2	26.1	17.3	08 08.3	48°.0
45.1	36.2	27.2	18.3	Barometer = 29.763
11 05 25.18	11 06 16.16	10 07 07.24	10 07 58.22	
11 20 06.1	11 20 57.0	11 21 48.0	11 22 38.9	At $11^h\ 24^m$, arc = 0°.04
16.1	21 07.0	57.9	49.0	0°.03
26.0	17.0	22 08.0	59.0	Temperature = 70°.0
36.1	27.0	18.0	23 08.9	51°.3
46.1	37.0	28.0	19.0	Barometer = 29.765
11 20 26.08	11 21 17.0	11 22 07.98	11 22 58.96	
11 35 04.5	11 36 55.6	11 38 46.7	11 40 38.0	At $11^h\ 43^m$, arc = 0°.02
14.4	37 05.7	56.8	48.0	0°.02
24.5	15.7	39 06.8	58.0	Temperature = 70°.0
34.6	25.7	16.8	41 08.0	52°.0
44.6	35.6	26.8	18.0	Barometer = 29.769
54.7	45.6	36.9	28.0	
36 04.7	55.7	46.9	38.0	
14.6	38 05.7	56.9	47.9	
24.7	15.7	40 07.0	58.0	
34.7	25.6	17.0	42 08.0	
44.7	35.6	27.0	18.0	
11 35 54.61	11 37 45.65	11 39 36.87	11 41 27.99	

Set 16, face 3, January 13, p. m.

R.			L.			R.			L.			
h.	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*	*s.*	
1	50	01.1	1	51	52.3	1	53	43.6	1	55	34.6	At 1^h 49^m, arc = 3°.77
		11.1		52	02.5			53.6			44.6	3°.79
		21.2			12.4		54	03.6			54.7	Temperature = 63°.4
		31.2			22.4			13.6		56	04.6	49°.2
		41.2			32.4			23.6			14.7	Barometer = 29.718
		51.3			42.4			33.6			24.7	
	51	01.3			52.5			43.6			34.8	
		11.3		53	02.6			53.7			44.7	
		21.4			12.6		55	03.7			54.8	
		31.4			22.5			13.7		57	04.8	
		41.4			32.5			23.6			14.8	
1	50	51.26	1	52	42.46	1	54	33.63	1	56	24.71	
2	05	36.6	2	06	27.6	2	07	18.4	2	08	09.5	At 2^h 09^m, arc = 2°.29
		46.6			37.6			28.5			19.5	2°.31
		56.6			47.5			38.5			29.6	Temperature = 61°.7
	06	06.6			57.5			48.6			39.6	49°.4
		16.5		07	07.4			58.6			49.6	Barometer = 29.710
2	05	56.58	2	06	47.52	2	07	38.52	2	08	29.56	
2	20	01.5	2	20	52.5	2	21	43.4	2	22	34.6	At 2^h 24^m, arc = 1°.76
		11.5		21	02.4			53.4			44.6	1°.78
		21.5			12.5		22	03.4			54.6	Temperature = 60°.8
		31.5			22.5			13.6		23	04.6	49°.3
		41.5			32.6			23.6			14.6	Barometer = 29.699
2	20	21.5	2	21	12.5	2	22	03.48	2	22	54.6	
2	50	01.3	2	50	52.3	2	51	43.4	2	52	34.5	At 2^h 54^m, arc = 1°.09
		11.3		51	02.3			53.5			44.4	1°.10
		21.3			12.4		52	03.5			54.4	Temperature = 59°.2
		31.2			22.4			13.4		53	04.5	47°.1
		41.2			32.4			23.5			14.5	Barometer = 29.688
2	50	21.26	2	51	12.36	2	52	03.46	2	52	54.46	
3	50	02.6	3	50	53.7	3	51	44.7	3	52	35.7	At 3^h 54^m, arc = 0°.52
		12.6		51	03.7			54.7			45.7	0°.54
		22.7			13.7		52	04.7			55.8	Temperature = 69°.5
		32.6			23.8			14.7		53	05.8	54°.1
		42.6			33.7			24.6			15.8	Barometer = 29.670
3	50	22.62	3	51	13.72	3	52	04.68	3	52	55.76	

Set 16, face 3, January 13, p. m.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
4 50 02.0	4 50 52.9	4 51 44.0	4 52 35.1	At 4^h 54^m, arc = { 0°.30
12.1	51 02.9	54.1	45.1	0°.32
22.0	13.0	52 04.1	55.2	Temperature = { 62°.3
32.0	22.9	14.0	53 05.2	46°.1
41.9	32.9	24.0	15.1	Barometer = 29.776
4 50 22.0	4 51 12.92	4 52 04.04	4 52 55.14	
5 50 01.1	5 50 52.2	5 51 43.2	5 52 34.1	At 5^h 54^m, arc = { 0°.18
11.1	51 02.2	53.3	44.3	0°.19
21.1	12.3	52 03.2	54.3	Temperature = { 60°.6
31.2	22.3	13.4	53 04.3	45°.7
41.1	32.3	23.3	14.2	Barometer = 29.760
5 50 21.12	5 51 12.26	5 52 03.28	5 52 54.24	
6 50 02.2	6 50 53.5	6 51 44.4	6 52 35.5	At 6^h 54^m, arc = { 0°.11
12.3	51 03.4	54.5	45.5	0°.12
22.4	13.4	52 04.4	55.4	Temperature = { 57°.9
32.2	23.5	14.4	53 05.6	43°.9
42.4	33.4	24.5	15.5	Barometer = 29.769
6 50 22.3	6 51 13.44	6 52 04.44	6 52 55.5	
7 20 01.8	7 20 53.0	7 21 44.0	7 22 34.9	At 7^h 24^m, arc = { 0°.07
11.9	21 03.0	54.0	45.0	0°.08
21.9	12.9	22 04.1	55.1	Temperature = { 54°.8
31.9	23.0	14.0	23 05.0	42°.0
42.0	33.1	24.0	15.1	Barometer = 29.765
7 20 21.9	7 21 13.0	7 22 04.02	7 22 55.02	
7 35 02.6	7 35 53.5	7 36 44.5	7 37 35.7	At 7^h 39^m, arc = { 0°.06
12.6	36 03.5	54.6	45.7	0°.06
22.7	13.6	37 04.6	55.6	Temperature = { 53°.8
32.5	23.6	14.7	38 05.7	41°.9
42.6	33.5	24.6	15.6	Barometer = 29.765
7 35 22.6	7 36 13.54	7 37 04.6	7 37 55.66	
7 50 01.5	7 51 52.5	7 53 43.5	7 55 34.6	At 7^h 58^m, arc = { 0°.05
11.6	52 02.5	53.6	44.6	0°.05
21.4	12.4	54 03.7	54.7	Temperature = { 53°.7
31.5	22.5	13.6	56 04.6	42°.1
41.5	32.4	23.6	14.6	Barometer = 29.763
51.5	42.5	33.6	24.6	
51 01.5	52.5	43.6	34.6	
11.6	53 02.4	53.6	44.6	
21.4	12.4	55 03.6	54.6	
31.5	22.5	13.7	57 04.7	
41.4	32.4	23.6	14.7	
7 50 51.49	7 52 42.45	7 54 33.61	7 56 24.63	

METHOD OF REDUCTION.

TEMPERATURE OF THE PENDULUM.

To obtain the true temperature of the pendulum at the time of observation, two thermometers were fastened inside the box: one just above the support; the other (nearly) on a level with the swinging knife-edge. As the temperature of our little observatory, which was heated by means of a stove, was always influenced by that outdoors and by the velocity of the wind, which, during the time the observations were carried on, amounted sometimes to forty-six miles an hour or more, it was found that the temperatures indicated by the upper and the lower thermometer nearly always showed differences from 10° to 15° F. Of course, the higher temperature was always indicated by the upper thermometer, which was surrounded by a stratum of air warmer than that influencing the thermometer below.

This circumstance caused great inconvenience in the reduction. The conducting-power of brass being different from that of the air, we might have assumed, *a priori*, that the temperature of the pendulum was not the same as that indicated by the thermometers at the time of observation. According to the difference in the conducting-power of the two mediums, we might infer that whenever the temperature of the air was rising that of the pendulum itself would be lower, and when it was falling the actual temperature of the pendulum must have been higher than that indicated by the thermometer.

Though many attempts were made to keep the temperature of the observatory uniform, they were unsuccessful: the upper and the lower thermometer always varied. At our second winter-quarters, at Polaris House, where also numerous experiments were made, I tried to eliminate this source of annoyance by attaching another thermometer inside the box, half-way between the two instruments mentioned before. Although we propose to discuss the observations taken during our second winter-quarters after those made at Polaris Bay, we still think that we are justified in taking here some points into consideration that have special connection with our case of temperature.*

The third thermometer was used during the observations made at Polaris House. Calling the upper thermometer E_1, the middle E_2, and the lower E_3, we found that the temperatures as indicated by E_1 and E_2 differed but slightly, the difference amounting on the average to 1° F. only after the instruments had been corrected for their errors of graduation; consequently, the main difference of temperature must exist between E_2 and E_3, in which interval the two strata of extreme temperature seem to meet. In the reduction, we assumed that the two strata met halfway between E_2 and E_3.

In order to get a more definite idea of the relation of the variation of the temperature of the pendulum to that of the air surrounding the latter, we made the following experiments:

A brass pendulum, of nearly the same dimensions as that used by us in the Arctic regions, was made at the United States navy-yard under the supervision of the writer. As it was a point of the highest importance to get the actual temperature of the pendulum itself, three holes were drilled into the rod: the first one was 22.2 inches from the top of the pendulum; the second, 24 inches from the first; and the third, 20 inches below the second. The bulb of a thermometer was introduced into each of these holes; and each thermometer was held in position by means of a cork, through the center of which the tube passed. To make the contact as perfect as possible between the bulbs of the instruments and the brass rod, the cavity was filled with brass filings.

* We intended to repeat the experiments at Polaris Bay during the summer of 1872, but were prevented from doing so by the perilous position of the ship.

The pendulum was mounted in the same way as the one used during our former observations. Three thermometers were attached inside the box in the same manner as mentioned above. The bulbs of these instruments, intended to indicate the temperature of the air, were at the same levels with the bulbs of those fastened to the pendulum. The observations were made at the Smithsonian Institution, on the third floor of the north tower, in the west room, which has three windows reaching down to the floor; two of the windows facing north and one west. The room was heated by means of an iron stove, and the pendulum-box was about the same distance from the stove as the instrument at the Polaris Bay observatory. In order to obtain extremes of temperature similar to those at northern stations, the experiments were carried on during the cold weather of February last (1875). A large fire was lit in the stove, and the cold air from outdoors was made to rush in through an opening at the window if required; the opening being 25 inches wide, 15 high, beginning 2 inches above the floor of the room.

The thermometers attached to the pendulum are designated—

P_a (uppermost); P_b (middle); P_c (lower);

the corresponding ones, to indicate the temperature of the air in the box—

E_1, E_2, E_3.

Experiment No. 1, February 3, 1875.

Time.	Pendulum.			Air.			Differences.			Remarks.
	P_a	P_b	P_c	E_1	E_2	E_3	$a-1$	$b-1$	$c-1$	
h. m.	°	°	°	°	°	°	°	°	°	
12 45 a. m ...	61.3	58.2	58.0	76.5	71.8	59.8	—15.7	—14.0	— 2.3	Window shut.
1 00 a. m ...	63.5	59.8	56.8	75.8	75.0	66.0	—12.8	—15.6	— 9.6	Window shut; opened it after this reading was taken.
30 a. m ...	53.4	44.8	37.4	46.8	37.2	32.2	+ 6.1	+ 7.2	+ 4.8	Window shut after this reading.
50 a. m ...	59.0	53.4	48.4	69.8	64.9	54.0	—11 3	—11.9	— 6.0	Window shut; opened it after this reading.
58 a. m ...	56.3	47.1	39.3	50.1	40.3	33.0	+ 5.7	+ 6.4	+ 5.9	Window open.
2 09 a. m ...	52.5	41.7	34.0	41.9	33.3	28.8	+10.1	+ 8.0	+ 4.8	Do.
18 a. m ...	47.9	36.8	30.5	38.0	29.9	26.0	+ 9.4	+ 6.5	+ 4.1	Do.
24 a. m ...	47.8	38.0	33.5	51.3	41.0	35.8	— 4.0	— 3.4	— 2.7	Window shut.
30 a. m ...	49.7	40.6	36.0	57.2	49.3	42.2	— 8.0	— 9.1	— 6.6	Do.
36 a. m ...	50.3	41.8	37.4	59.8	52.4	45.1	—10.0	— 1.0	— 8.1	Do.
45 a. m ...	51.7	44.3	39.3	62.2	56.8	48.6	—11.0	—12.9	— 9.7	Do.
Correction for index-error.	— 0.3	— 0.3	— 0.1	+ 0.2	+ 0.1	+ 0.3	......	......	......	
Mean	......	......	......	......	......	......	— 3.7	— 3.6	— 2.4	

N. B.—A strong northwest wind blowing during the whole night; average velocity = 30 miles per hour.

Experiment No. 2, February 18, 1875.

Time.	Pendulum.				Air.			Differences.			Remarks.
	P_a	P_b	P_ϵ	P_c	E_1	E_2	E_3	$a-1$	$b-1$	$c-1$	
h. m.	°	°	°	°	°	°	°	°	°	°	
8 00 p. m...	70.7	63.8	59.5	57.1	68.4	52.8	53.0	+ 1.8	+10.6	+ 3.7	Window shut.
15 p. m...	68.3	65.4	62.4	61.8	67.8	64.3	60.8	0.0	+ 0.7	+ 0.6	Do.
9 00 p. m...	68.8	65.7	63.8	63.1	73.3	70.0	65.0	— 5.0	— 4.7	— 2.3	Do.
10 00 p. m...	70.8	67.5	64.9	63.8	77.2	71.6	65.4	— 6.9	— 4.5	— 2.0	Do.
15 p. m...	67.3	61.8	56.2	55.2	58.8	53.1	50.3	+ 8.0	+ 8.3	+ 4.5	Window open (after 10^h).
30 p. m...	65.3	59.5	54.2	53.9	56.7	52.8	50.8	+ 8.1	+ 6.3	+ 2.7	Window open.
11 00 p. m...	60.8	53.8	48.0	46.8	52.0	45.7	39.9	+ 8.3	+ 7.7	+ 6.5	Do.
30 p. m...	62.9	56.8	54.1	51.9	69.4	62.5	55.7	— 6.8	— 6.1	— 4.2	Window shut (after 11^h).
12 15 a. m...	65.4	60.0	57.2	55.8	74.0	67.8	60.6	— 9.1	— 8.2	— 5.2	Window shut.
1 00 a. m...	67.3	61.8	59.1	57.4	73.2	67.0	60.0	— 6.4	— 5.6	— 3.0	Do.
Correction...	— 0.3	— 0.3	0.0	— 0.1	+ 0.2	+ 0.1	+ 0.3	......	......	......	
Mean.......	......	......	......	......	......	......	......	— 0.8	+ 0.4	+ 0.1	

N. B.—Thermometer P_ϵ was attached to the pendulum midway between P_b and P_c.

Experiment No. 3, February 19, 1875.

Time.	Pendulum.				Air.			Differences.			Remarks.
	P_a	P_b	P_ϵ	P_c	E_1	E_2	E_3	$a-1$	$a-2$	$a-3$	
h. m.	°	°	°	°	°	°	°	°	°	°	
9 30 p. m...	68.5	68.8	64.2	63.4	74.8	71.4	67.3	— 6.8	— 6.0	— 4.3	Window opened after this reading.
10 00 p. m...	63.6	58.8	54.0	53.7	50.0	51.1	49.2	+13.2	+ 7.3	+ 4.1	Window shut after this reading.
30 p. m...	64.2	60.0	57.7	56.8	66.6	62.3	59.3	— 2.9	— 2.7	— 2.9	Window shut.
11 00 p. m...	66.4	62.3	61.2	59.8	74.2	70.0	65.3	— 8.3	— 8.1	— 5.9	Do.
15 p. m...	67.7	63.8	62.7	61.5	77.2	73.0	67.0	—10.0	— 9.6	— 5.9	Window opened after this reading.
40 p. m...	65.6	61.3	58.8	57.8	63.4	60.0	56.9	+ 2.0	+ 0.9	+ 0.5	Window opened.
12 00 p. m...	64.5	59.2	53.2	52.7	57.3	53.8	49.9	+ 6.7	+ 5.0	+ 2.4	Window shut after this reading.
10 p. m...	65.8	60.7	59.3	57.9	73.0	68.0	62.0	— 7.7	— 7.7	— 4.5	Window opened after this reading.
20 p. m...	65.5	59.8	55.7	55.3	67.2	62.0	55.0	— 2.2	— 2.6	— 0.1	Window shut.
50 p. m...	63.8	55.6	50.0	50.6	62.7	51.3	47.8	+ 0.6	+ 3.9	+ 2.0	Do.
Correction for index-error.	— 0.3	— 0.3	0.0	— 0.1	+ 0.2	+ 0.1	+ 0.3	......	......	......	
Mean.......	......	......	......	......	......	......	......	— 1.6	— 2.0	— 1.4	

Results.—The variations of the temperature of the air in relation to the variation of the temperature of the pendulum are represented in the three following equations, for the upper ($\Delta E_1\ \Delta P_a$), middle ($\Delta E_2\ \Delta P_b$), and lower ($\Delta E_3\ \Delta P_c$), thermometers:

$$(1)\quad \begin{aligned} \Delta E_1 &= 4.0\ \Delta P_a \\ \Delta E_2 &= 2.6\ \Delta P_b \\ \Delta E_3 &= 2.0\ \Delta P_c \end{aligned}$$

$$(2)\quad \begin{aligned} \Delta E_1 &= 2.6\ \Delta P_a \\ \Delta E_2 &= 2.6\ \Delta P_b \\ \Delta E_3 &= 1.7\ \Delta P_c \end{aligned}$$

$$(3)\quad \begin{aligned} \Delta E_1 &= 6.7\ \Delta P_a \\ \Delta E_2 &= 4.0\ \Delta P_b \\ \Delta E_3 &= 2.0\ \Delta P_c \end{aligned}$$

or the co-efficients by which the variations of the temperature of the pendulum have to be multiplied in order to obtain the corresponding variations of the temperature of the air are represented as follows:

	ΔP_a	ΔP_b	ΔP_c
February 3............	4.0	2.6	2.0
February 18............	2.6	2.6	1.7
February 19............	6.7	4.0	2.0
Mean..............	4.4	3.1	1.9

hence, we may assume that the variations of the temperature of the pendulum are in proportion to the variations of the temperature of the air as—

$$\tfrac{1}{4},\quad \tfrac{1}{3},\ \text{and}\ \tfrac{1}{2},$$

respectively, for—

$$P_a,\quad P_b,\ \text{and}\ P_c,$$

in reference to

$$E_1,\quad E_2,\ \text{and}\ E_3.$$

We found the differences of the temperatures of the pendulum and the air to be—

$$3^\circ.2,\ 0^\circ.7,\ \text{and}\ 1^\circ.7;$$

or, on the average, the pendulum was found to be 1°.9 colder than the air surrounding it; but in our reductions no use was made of these latter values, as they were not considered to be reliable enough, and the time at our disposal did not permit us to make any more experiments.

As we stated above, an additional thermometer (P_ε) was inserted between P_b and P_c during the experiments made on February 18 and 19; and, by expressing the temperature of the different points of the pendulum where the thermometers were attached by the following equation:

$$t = t_0 + a\,y + b\,y^2 + c\,y^3$$

For the determination of the co-efficients t_0, a, b, and c, we have the observed temperatures of four points of the pendulum at different distances (y), which furnish the equation of conditions; further, the last two sets of observations furnish the three following equations:

$$\begin{aligned} +5^\circ.2 &= +12a + 144b + 1728c \\ -3^\circ.4 &= -\ \ 5a + \ \ 25b - \ \ 125c \\ -4^\circ.7 &= -10a + 100b - 1000c \end{aligned} \qquad \begin{aligned} a &= +\ 0.76 \\ b &= +\ 0.004 \\ c &= \ \ \ 0.0026 \end{aligned}$$

hence, the temperatures of the pendulum, and their variations in regard to y and the point of maximum variation, may be expressed by the following three equations:

$$t = 61^{\circ}.3 \quad + 0.38y \quad + 0.01y^2 - 0.0003y^3$$

$$\text{var.} = \frac{dt}{dy} = \quad 0.38 \quad + 0.002y \quad - 0.0009y^2$$

$$\frac{d^2t}{dy^2} = \quad 0.002 - 0.0018y = 0 \qquad\qquad y = 1 \text{ inch.}$$

$$\begin{array}{rcl|l} +4.9 & = & +12a + 144b + 1728c & a = +0.63 \\ -2.7 & = & -\ \ 5a + \ \ 25b - \ \ 125c & b = +0.0070 \\ -3.5 & = & -10a + 100b - \ \ 100c & c = -0.0021 \end{array}$$

$$t = \quad 60^{\circ}.4 \quad + 0.31y \quad + 0.002y^2 - 0.0003y^3$$

$$\frac{dt}{dy} = \text{var.} = + \quad 0.31 \quad + 0.004y \quad - 0.0009y^2$$

$$\frac{d^2t}{dy^2} = + \quad 0.004 - 0.0018y = 0$$

hence, $y = +2$ inches, which indicates that the cold and warm strata of air meet two inches above the place occupied by P_c. Before one inch was found for y, which shows that the conditions remained about the same during the last two days.

METHOD OF REDUCTION.

As the different sets of transits were taken at intervals of fifteen minutes, or at multiples of fifteen minutes (with but very few exceptions), the times of transits are represented by the series given in the first column, headed "15^m interval."

The second column gives the approximate chronometer-time for the mean of the series, corresponding to the mean of the time of RL, RL.

The third column contains the arc of vibration, as interpolated for the middle, between the time preceding and following, and is written between.

The two columns next following give the respective temperatures of the air, interpolated from those observed, corresponding to the same time as the arc of the preceding column. The figures at the bottom of these two columns are the mean temperatures of the air during the time of observation. As we may presume that the mean temperature of the air during the entire time of observation is equal or nearly equal (differing but by a constant), we may presume that the temperature of the pendulum can be deduced from the observed temperature of the air by using the ratios found, as explained above. This was done in such a manner that, first, the differences were taken between the observed temperatures and the mean (given below); then, these differences were multiplied either by $\frac{1}{4}$ (for P_a) or by $\frac{1}{2}$ (for P_c), and the results added to the respective means.*

The column headed "$1.71A^2$" gives the correction corresponding to the arc A_1 for the interval of time of fifteen minutes. We assumed that the arc at the middle would correspond to the mean of all the arcs, even if the interval was divided into an infinite number of parts, and then the mean of all the arcs taken.

The correction for arc is obtained in the manner following: The time of vibration observed is nearly—

$$\pi\sqrt{\frac{l}{2g}}\cdot\left(1 + A^2\frac{\sin^2 1^{\circ}}{16} + \ldots\right)$$

* At Polaris House, by $\frac{1}{3}$ for P_b.

and, if the observations continue for a very short interval of time, the observed time of vibration has only to be divided by—

$$1 + A^2 \frac{\sin^2 1^\circ}{16}$$

or the number of vibrations performed in any interval of time, say fifteen minutes, as in our case, or 900 vibrations (more or less), has to be multiplied by the above quantity.

Therefore, the correction to an infinitely small arc becomes, in our case, with sufficient accuracy,

$$900\, A^2 \frac{\sin^2 1^\circ}{16}$$

giving, after the calculation has been performed,

$$1.71 A^2$$

the unit being 0.01 of a vibration. A small table was constructed for this purpose, and is given below:*

Correction for arc for 15^m *interval, or* $1.71A^2$.

Unit $= 0^s.01$.

s.	°	*s.*	°	*s.*	°	*s.*	°	*s.*	°	*s.*	°
6.0	1.87	4.9	1.69	3.9	1.51	2.9	1.30	1.9	1.05	0.9	0.73
5.9	1.86	4.8	1.68	3.8	1.49	2.8	1.28	1.8	1.02	0.8	0.69
5.8	1.84	4.7	1.66	3.7	1.47	2.7	1.26	1.7	1.00	0.7	0.64
5.7	1.83	4.6	1.64	3.6	1.45	2.6	1.23	1.6	0.97	0.6	0.59
5.6	1.81	4.5	1.62	3.5	1.43	2.5	1.21	1.5	0.94	0.5	0.54
5.5	1.80	4.4	1.60	3.4	1.41	2.4	1.18	1.4	0.91	0.4	0.48
5.4	1.78	4.3	1.59	3.3	1.39	2.3	1.16	1.3	0.87	0.3	0.42
5.3	1.76	4.2	1.57	3.2	1.37	2.2	1.14	1.2	0.84	0.2	0.35
5.2	1.74	4.1	1.55	3.1	1.35	2.1	1.11	1.1	0.80	0.1	0.25
5.1	1.73	4.0	1.53	3.0	1.32	2.0	1.08	1.0	0.76	0.0	
5.0	1.71										

The horizontal lines in the last three columns were drawn in order to indicate where transits were observed, and to facilitate the process of summing up each of the last three columns under consideration, from the middle series or horizontal line to the respective series or horizontal lines above and below. As in former reductions of observations made with the Hayes pendulum,† 50° F. was adopted as a convenient standard temperature, we used the same value, which was thrown off in making the respective additions.

The results are given opposite the horizontal lines in the next column to the right, headed ΣP_a and ΣP_b, which have to be multiplied by the two co-efficients of temperature, 0.335 and 0.135.‡

* The few extreme cases beyond the limit of this table can easily be supplied.

† Schott (*loc. cit.*, p. 33) assumed the coefficient of expansion to be 0.0001045, and the coefficient for the number of vibrations, 0.4518. Instead of the latter value, we used 0.452, which was considered to be accurate enough.

‡ To take not only the expansion, but also the unequal density of the pendulum into account, we assumed that the two strata of cold and warm air met midway between E_2 and E_3 (as shown above). In order to obtain the factors mentioned, the moment of inertia of the pendulum (of the dimensions as stated above) was divided by the statical moment, which gave the length of the simple pendulum. Designating by τ_1 and τ_2 the number of degrees Fahrenheit above 50° of the upper and lower end respectively, it was found that the correction to be applied to the usual correction for temperature, $0.452\left(\frac{\tau_1+\tau_2}{2}\right)$ on account of unequal density, is,

$$+0.10\,(\tau_1-\tau_2)$$
$$+0.17\,(\tau_1-\tau_2)$$

if the two strata of air meet at P_ε or P_c respectively.

The last column contains the sum of the above-named corrections, which have to be applied to the mean of RL, RL transits, in connection with a small correction, i (to be found below), in case the interval of time during which a series of transits was observed was not fifteen minutes exactly. At Polaris Bay, we made this small correction by assuming the excess for one minute, derived from a preliminary reduction, to be $-0^s.06$, whereas at Polaris House the value of $+0^s.10$ was made use of.

In recapitulating the transits, only the tenths and hundredths are given, as the whole numbers are not necessary, because the differences only are needed, and the whole seconds are easily supplied hereafter. In taking the mean of the following series of transits—

$$\begin{array}{rl} 39.52 = 39 & + 0.52 \\ 30.50 = 30 & + 0.50 \\ 21.52 = 21 & + 0.52 \\ 12.60 = 12 & + 0.60 \\ \hline \mathrm{M} = 26.03 = 25.5 & + 0.53 \end{array}$$

we see that the mean of the fractions differs but $0^s.5$ from the actual mean if the whole numbers are carried along. For this reason, only the mean of the fractions was taken into account. The sign of the correction r (the total reduction for arc, temperature, and barometer) is the same for the upper series and reversed for the lower. By adding i and r to the mean, we obtain the corrected transits, corresponding to the vertical argument (I).

The observations taken at Polaris Bay show that the pendulum was losing on the chronometer, or the chronometer gaining on the pendulum: the excess of the pendulum was negative, whereas at Polaris House it was found to be positive. In order to obtain the numbers in the column headed "Interval" (of the upper series) the preceding transits had to be subtracted from the middle series, and the middle series from the transits following. The necessary whole number of seconds was supplied, because there is only an even number of vibrations between the series.* The sign + was attached to the preceding, and − to the following interval, in order to make the excess appear negative.

Underneath the column under consideration, the sum of the negative and positive intervals is to be found. These sums ought to balance each other in case the transits of the middle series were perfectly correct and the errors of the other transits would balance each other, as they generally would do according to the rules of probability. Consequently, the difference of these sums is equal to the product of the error of the middle series into the number of series.

The column headed "Observed" gives the observed intervals as deduced from the mean of all the series, and not from the middle series alone.

The column headed "Product" gives the product of the interval and the excess, as required, according to the method of least squares. The sum of the products is given below the column,

No correction is needed if the two strata meet at P_b. We adopted the coefficient 0.10; and the complete correction for the sum of vibrations performed in a solar day becomes, after combining the coefficients of τ_1 and τ_2 into one—

$$0.322\,\tau_1 + 0.130\,\tau_2$$

for a solar day, and, therefore, for an interval of 15 minutes—

$$0.335\,\tau_1 + 0.135\,\tau_2$$

the unit being now 0.01 vibrations.

* As the excess was positive at Polaris House, the middle had to be subtracted from the preceding transit, and the following transit from the middle. Instead of finding the excess at once, it might be found to be more convenient to assume an excess by first approximation, in order not to be compelled to carry over so many figures and find only the correction to this assumed value; but, as the excess for 15^m was under 1^s at Polaris Bay, the excess was found at once. At Polaris House, it would be well to assume $1^s.5$, and find the correction to this value.

and should be divided by the sum of the squares of the intervals (ΣI^2), which gives the excess for 15^m chronometer-time, and, if multiplied by 96, gives the excess (retardation) for 24^h chronometer-time. As the chronometer A was gaining $238^s.1$ in a solar day, the number of vibrations of the pendulum performed during a solar day will be equal to $86400 + 238^s.1 =$ retardation.

The column before the last contains the intervals, and the last one (Δ) the residuals, expressed in hundredths of seconds of time.

In comparing the residuals of the different days with each other, we perceive a regular wave, that can be traced through the whole series of observations. We can account for this only in the following manner:

As has been stated before, the temperature, as indicated by the upper thermometer, fastened inside the pendulum-box, was always found to be higher than that of the lower thermometer. As the pendulum was always reversed a short time before each set of observations was taken, except on January 5, a. m., and on January 8, a. m., the cold end of the rod was turned upward and the warmer one downward. It is easy to perceive that the upper (now colder) end took up the temperature of the air, as indicated by the thermometer, but slowly; whereas the lower (now warmer) end radiated its heat more readily. When the difference of the negative and positive sums of intervals (as stated before) was larger (except during the two days mentioned above) than could be attributed to the effect of the error of observation of the middle series, it was assumed that cooling had taken place after the pendulum had been reversed. To simplify the process of this special reduction, the action of cooling was assumed to commence at the moment the pendulum was reversed, and to be uniform, although it is more rapid at the beginning than at the end. To obtain the rate of cooling, it was necessary to divide the difference mentioned by—

400 in the series of 4 hours,

and by—

1080 in the series of 6 hours.

The following scheme will show how this can be done. Giving, in the first column, the interval; in the second, the cooling, that for the interval of 15 minutes taken as unit; and, in the third, the correction for cooling, the correction being represented by the squares of the second column, then the correction for the interval will be the differences between the series properly and the middle series, as represented in the fourth column:

I	ΔI	ΔI^2	Correction to observed interval.
− 8	0	0	− 64
7	1	1	63
6	2	4	60
− 4	4	16	− 48
0	8	64	0
+ 4	12	144	+ 80
6	14	196	132
7	15	225	161
+ 8	16	256	+ 192
			$\Sigma = 800$

In comparing the residuals, it will be seen that the correction applied on account of cooling has improved the final result considerably.

Chronometer-Comparisons.

JANUARY 4, 1872. A. M.

	h.	m.	s.	s.	s.	s.	s.	s.
Z	3	6	57.4	77.4				
I	2	36	55.0	65.0				
B	9	39	33.2	43.1				
I	2	37	52.0	62.0				
C	2	51	04.8	14.5	32.2	99.6		
I	2	40	14.0	24.0	42.0	89.0		
D	2	39	51.8	58.7				
I	2	42	55.0	62.0				
E	9	44	03.5	13.2	40.6	48.8	119.8	135.9
I	2	44	55.0	65.0	92.0	100.0	171.0	187.0
A	6	13	39.4	49.4				
I	3	20	10.0	20.0				

JANUARY 5, 1872.

A. M.						P. M.					
	h.	m.	s.	m.	s.		h.	m.	s.	m.	s.
Z	3	04	20.1	05	14.1	Z	8	27	03.0	27	13.0
I	2	34	14.0	35	08.0	I	7	56	57.0	57	07.0
B	9	41	22.6	41	32.5	B	3	04	24.4	04	34.4
I	2	35	42.0	35	52.0	I	7	57	51.0	58	00.9
C	2	49	26.9	49	36.8	C	8	10	39.3	10	50.0
I	2	38	32.0	38	42.0	I	7	59	44.0	59	55.0
D	2	36	28.4	36	38.5	D	7	57	44.9	57	55.0
I	2	39	31.0	39	41.2	I	8	00	48.0	00	58.0
E	2	37	37.4	37	47.3	E	3	06	37.5	07	23.4
I	2	40	30.0	40	40.0	I	8	02	37.0	03	23.0
A	6	01	10.1	01	20.1	A	11	25	58.6	26	08.6
I	2	03	45.0	03	55.0	I	8	27	40.0	27	50.0

JANUARY 6, 1872.

A. M.						P. M.						P. M.					
	h.	m.	s.	m.	s.		h.	m.	s.	m.	s.		h.	m.	s.	m.	s.
Z	2	53	21.4	53	33.6	Z	9	01	47.4	01	57.5	Z	2	10	11.6	10	26.5
I	2	23	14.6	23	26.8	I	8	31	40.0	31	50.0	I	1	40	05.0	40	20.0
B	9	34	18.5	34	38.6	B	3	44	26.6	44	36.6	B	8	53	10.7	53	25.7
I	.	.	. .	.	. .	I	8	33	50.0	34	00.0	I	1	41	44.0	41	49.0
C	2	38	00.0	38	12.0	C	8	46	16.6	46	26.7	C	1	54	54.9	55	24.9
I	2	27	04.0	27	16.0	I	8	35	20.0	35	30.0	I	1	43	59.0	44	29.0
D	2	24	47.5	24	54.6	D	8	33	15.2	33	25.2	D	1	42	38.1	42	50.2
I	2	27	52.0	27	59.0	I	8	36	20.0	36	30.0	I	1	45	44.0	45	56.0
E	9	35	36.9	35	48.1	E	3	45	13.0	45	23.1	E	8	56	10.2	56	22.2
I	2	28	34.7	28	46.0	I	8	37	10.0	37	20.0	I	1	47	17.0	47	29.0
A	6	13	48.2	13	58.3	A	12	09	31.8	09	41.7	A	4	28	33.5	28	53.5
I	3	12	25.0	12	35.2	I	9	07	20.0	07	30.0	I	1	25	30.0	25	30.0

Chronometer-Comparisons.

JANUARY 8, 1872.

A. M.						P. M.						P. M.					
	h.	*m.*	*s.*	*m.*	*s.*		*h.*	*m.*	*s.*	*m.*	*s.*		*h.*	*m.*	*s.*	*m.*	*s.*
Z	2	56	21.0	58	29.1	Z	8	38	54.6	39	04.5	Z	2	16	08.5	16	18.5
I	2	26	07.0	28	15.0	I	8	08	40.0	08	50.0	I	1	45	54.0	46	04.0
B	9	47	47.5	47	57.5	B	3	28	32.8	28	42.8	B	9	06	19.5	06	32.5
I	2	30	11.0	30	21.0	I	8	10	00.0	10	10.0	I	1	46	52.0	47	05.0
C	2	43	56.8	44	38.9	C	8	23	05.5	23	15.5	C	1	59	39.0	00	20.0
I	2	32	52.0	33	34.0	I	8	12	00.0	12	10.0	I	1	47	34.0	48	15.0
D	2	31	19.2	31	29.2	D	8	09	57.3	10	07.3	D	1	47	06.4	47	16.5
I	2	34	22.0	34	32.0	I	8	13	00.	13	10.0	I	1	50	10.0	50	20.1
E	9	50	19.9	50	29.9	E	3	29	59.0	30	09.0	E	9	07	56.5	08	08.5
I	2	35	17.0	35	27.0	I	8	14	00.	14	10.0	I	1	51	03.0	52	15.0
A	6	16	11.8	16	21.8	A	11	04	39.5	04	49.6	F	4	34	53.2	35	03.2
I	3	06	50.0	07	00.	I	7	54	30.0		40.0	I	1	23	50.2	24	00.2

JANUARY 9, 1872.

A. M.					A. M.					P. M.				
	h.	*m.*	*s.*	*s.*		*h.*	*m.*	*s.*	*s.*		*h.*	*m.*	*s.*	*s.*
Z	3	03	22.2	37.2	A	11	10	05.8	15.8	A	4	45	41.2	51.1
I	2	34	07.0	22.0	I	7	56	00.0	10.0	I	1	30	40.0	50.0
B	9	56	49.5	59.5	Z	8	58	26.1	36.2	Z	2	22	13.5	25.3
I	2	35	15.0	25.0	I	8	28	10.0	20.0	I	1	51	57.0	69.0
C	2	47	46.4	56.4	B	3	51	53.5	73.5	Z	2	23	06.5	35.3
I	2	36	40.0	50.0	I	8	29	20.0	40.0	I	1	52	50.4	79.0
D	2	34	16.5	26.5	C	8	42	27.5	37.5	B	9	18	09.0	19.0
I	2	37	20.0	30.0	I	8	31	20.0	30.0	I	1	54	42.0	52.0
E	9	57	02.5	12.6	D	8	28	56.8	66.8	C	2	07	32.7	42.6
I	2	38	02.0	12.0	I	8	32	00.0	10.0	I	1	56	25.0	35.0
A	6	34	10.3	20.4	E	3	52	59.5	69.6	D	1	54	13.9	26.8
I	3	20	50.0	60.0	I	8	33	00.0	10.0	I	1	57	17.4	30.0
					A	12	27	38.8	58.7	D	1	55	53.6	56.0
					I	9	13	20.0	40.0	I	1	58	57.0	59.4
										E	9	20	41.4	51.4
										I	1	54	48.0	58.0

Chronometer-Comparisons.

JANUARY 10, 1872.

A. M.						A. M.					P. M.			
	h. m. s.	*s.*	*s.*	*s.*		*h. m. s.*	*s.*	*s.*		*h. m. s.*	*s.*			
Z	2 35 21.3	30.9	61.0	17.3		A	11 14 41.6	51.6		A	4 52 07.2	17.3		
I	2 05 04.0	14.0	44.0	60.0		I	7 56 40.0	50.0		I	1 33 10.0	20.0		
B	9 33 02.5	12.0				Z	8 52 26.3	36.0	86.0	Z	2 25 34.0	44.0		
I	2 07 35.0	45.0				I	8 22 10.0	20.0	70.0	I	1 55 17.0	27.0		
C	2 20 12.7	23.5	50.7			B	3 50 08.0	18.5		B	9 23 19.7	29.7		
I	2 09 04.0	15.0	42.0			I	8 23 40.0	50.0		I	1 55 56.0	66.0		
D	2 07 12.5	22.5				C	8 36 28.0	37.9		C	2 08 53.0	63.0		
I	2 10 16.0	26.0				I	8 25 20.0	30.0		I	1 57 44.0	54.0		
E	9 33 49.5	59.4				D	8 23 05.0	15.0		D	1 55 36.5	46.5		
I	2 10 56.0	66.0				I	8 26 10.0	20.0		I	1 58 41.0	51.0		
A	6 58 51.7	61.7				E	3 50 34.3	44.3		E	9 24 23.8	36.9		
I	3 41 30.0	40.0				I	8 26 40.0	50.0		I	1 59 34.4	47.4		
						A	12 38 45.3	65.6	105.6					
						I	9 20 30.0	50.0	90.0					

JANUARY 11, 1872.

A. M.					A. M.			P. M.			
	h. m. s.	*s.*	*s.*	*s.*		*h. m. s.*	*s.*		*h. m. s.*	*s.*	*s.*
Z	3 10 22.0	33.0			A	11 28 50.8	60.8	A	4 46 34.6	54.7	
I	2 40 03.0	13.0			I	8 06 50.0	60.0	I	1 23 40.0	60.0	
B	10 10 11.0	21.0			Z	9 10 58.5	09.2	Z	2 26 43.3	53.3	
I	2 40 40.0	50.0			I	8 40 39.3	50.0	I	1 56 22.0	32.0	
C	2 53 18.4	28.3			B	4 12 27.1	37.1	B	9 28 34.8	44.8	
I	2 42 07.0	17.0			I	8 41 57.0	67.0	I	1 57 11.0	21.0	
D	2 39 50.4	61.4			C	8 54 41.7	52.6	C	2 09 57.7	67.7	
I	2 42 54.0	65.0			I	8 43 30.0	41.0	I	1 58 44.0	54.0	
E	10 11 06.0	17.5	56.3	86.5	D	8 41 12.8	22.8	D	1 56 26.8	37.5	56.4
I	2 44 09.4	20.4	59.4	90.0	I	8 44 17.0	27.0	I	1 59 29.0	40.0	59.0
A	6 39 44.2	54.2			E	4 12 58.0	70.0	E	9 29 26.5	36.5	
I	3 18 30.0	40.0			I	8 45 02.0	14.0	I	2 00 37.0	07.0	
					A	12 31 21.7	41.6				
					I	9 09 10.0	30.0				

Chronometer-Comparisons.

JANUARY 12, 1872.

A. M.

	h.	m.	s.	s.	s.	s.
Z	12	40	03.6	13.6		
I	12	09	40.0	50.0		
A	4	22	10.7	20.7		
I	12	57	20.0	30.0		
B	7	43	37.1	47.1		
I	12	10	30.0	40.0		
C	12	23	46.7	56.7		
I	12	12	30.0	40.0		
D	12	10	19.7	29.5	59.3	99.3
I	12	13	20.0	30.0	60.0	100.0
E	7	46	32.8	42.8		
I	12	16	00.0	10.0		

A. M.

	h.	m.	s.	s.
Z	9	01	34.5	44.5
I	8	31	10.0	20.0
A	11	22	30.6	40.6
I	7	56	30.0	40.0
B	4	06	30.5	40.5
I	8	32	00.0	10.0
C	8	45	47.8	57.8
I	8	34	30.0	40.0
D	8	32	09.7	19.6
I	8	35	10.0	20.0
E	4	07	56.0	66.0
I	8	36	00.0	10.0
A	12	47	13.9	23.8
I	9	21	00.0	10.0

P. M.

	h.	m.	s.	s.	s.	s.
A	7	10	25.7	35.7		
I	3	43	10.0	20.0		
Z	4	26	28.4	38.4		
I	3	56	05.0	15.0		
B	11	32	33.9	47.5	78.9	123.9
I	3	56	51.0	65.0	97.0	141.0
C	4	12	16.0	28.0		
I	4	00	59.0	71.0		
D	3	58	49.0	62.0		
I	4	01	51.0	64.0		
E	11	36	02.4	12.5		
I	4	02	54.0	64.0		

JANUARY 13, 1872.

A. M.

	h.	m.	s.	s.	s.	s.
Z	1	54	03.3	12.5	31.0	41.0
I	1	23	36.0	45.8	64.0	74.0
B	9	02	20.3	34.4		
I	1	25	01.0	15.0		
C	1	38	06.9	16.9		
I	1	26	46.0	56.0		
D	1	24	30.8	44.8		
I	1	27	30.0	44.0		
E	9	03	04.4	11.4		
I	1	28	17.0	27.0		
A	2	02	20.0	30.0		
I	5	31	20.7	30.6		

A. M.

	h.	m.	s.	s.
A	11	46	02.7	12.7
I	8	16	00.0	10.0
Z	9	47	13.6	23.6
I	9	16	46.0	56.0
B	4	56	20.0	28.9
I	9	17	42.0	51.0
C	9	31	18.8	28.8
I	9	19	57.0	67.0
D	9	17	40.5	81.4
I	9	20	39.0	80.0
E	4	58	04.0	14.0
I	9	22	01.0	11.0
A	1	36	39.1	49.2
I	9	56	20.0	30.0

P. M.

	h.	m.	s.	s.
A	8	00	24.1	44.2
I	4	29	00.0	20.0
Z	5	13	48.0	58.0
I	4	43	20.0	30.0
B	0	24	58.8	68.8
I	4	45	00.0	10.0
C	5	00	12.9	22.9
I	4	48	50.0	60.0
D	4	47	21.6	31.6
I	4	50	20.0	30.0
E	0	28	47.5	57.5
I	4	51	30.0	40.0

The reduction of the above comparisons showed that the observing-chronometer A had a gaining daily rate of $1^s.55$ on mean sidereal time. However, in the way of our reductions, we used $1^s.5$ sidereal, or, what is the same, $238^s.1$ gaining on mean solar time. It is proper to mention that we used the average rate throughout, instead of the actual rate, as indicated by the above comparisons.

Face I.

15m interval.	Chronometer-time.		Arc.	TEMPERATURE OF THE— Air.		Pendulum. P_a	Pendulum. P_c	$1.71A^2$	Sums.		CORRECTIONS FOR— Arc.	Temperature.		Barometer.	Total.
	h.	m.	°	°	°	°	°	s.	°	°	s.	s.	s.	s.	s.
− 8	6	38	1.20	66.0	49.0	65.0	49.2	2.5	123.9	+ 7.0	7.6	+41.5	+ 0.9	− 0.3	+0.50
7		53	0.92	67.1	51.2	65.2	50.2	1.5	108.9	+ 7.8	5.2	+36.5	+ 1.1	− 0.3	.43
6	7	08	0.80	68.2	52.5	65.5	50.9	1.1	93.7	+ 7.6	3.7	+31.5	+ 1.0	− 0.2	.36
5		23	0.69	69.2	53.8	65.7	51.5	0.8							
4		38	0.60	69.6	54.2	65.8	51.7	0.6	62.5	+ 5.2	1.8	+20.9	+ 0.7	− 0.1	.23
3		53	0.54	69.1	53.7	65.7	51.5	0.5							
2	8	08	0.48	68.5	53.0	65.6	51.1	0.4							
− 1		23	0.42	68.0	52.5	65.4	50.9	0.3							
0		38	0.37	67.0	51.5	65.2	50.4	0.2							
+ 1		53	0.32	65.4	49.8	64.8	49.5	0.2							
2	9	08	0.28	63.7	48.2	64.4	48.8	0.1							
3		23	0.24	62.0	46.5	64.0	47.9	0.1							
4		38	0.20	60.3	45.0	63.5	47.1	0.1	58.4	− 3.4	0.6	+19.6	− 0.5	− 0.1	.20
5		53	0.17	58.5	43.6	63.3	46.5	0.1							
6	10	08	0.14	56.8	42.8	62.7	46.0	0.0	85.2	− 9.8	0.8	+28.5	− 1.3	− 0.2	.28
7		23	0.12	54.8	41.5	62.2	45.4	0.0	97.9	−13.8	0.8	+32.8	− 1.9	− 0.3	.32
+ 8		38							110.1	−18.4	0.8	+36.9	− 2.5	− 0.3	+0.35
Mean				64.6	49.3										

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

(Gaining 238^s.1 on mean solar time.)

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd.	Δ
	s.	s.	s.	s.	s.				s.	s.	s.	s.	
− 8	.75	.72	.73	.81	.75	− 12	+ 50	.13	+ 6.76	+ 6.72	− 53.8	+ 6.70	+ 2
7	.72	.68	.76	.78	.73	− 20	+ 43	.96	5.93	5.89	41.2	5.86	+ 3
6	.52	.50	.52	.60	.53	00	+ 36	.89	5.00	4.96	29.8	5.02	− 6
− 4	.16	.24	.28	.32	.25	00	+ 23	.48	+ 3.41	+ 3.37	13.5	+ 3.35	+ 2
0	.86	.84	.92	.94	.89	00		.89		− 0.04			− 4
+ 4	.60	.78	.74	.76	.72	− 31	− 20	.21	− 3.32	3.36	13.4	− 3.35	− 1
6	.02	.04	.08	.10	.05	00	− 28	.77	4.88	4.92	29.5	5.02	+10
7	.00	.02	.00	.08	.03	00	− 32	.71	5.82	5.86	41.0	5.86	0
+ 8	.96	.96	.06	.27	.06	− 12	− 35	.59	− 6.70	− 6.74	− 53.9	− 6.70	− 4

−20.72		−276.1
+21.10	15m excess	− 0.837
+ 0.38	24h	− 80.4
+ 0.04	A	+238.1
		86557.7 = V

Face 3.

15ᵐ interval.	Chronometer-time.		Arc.	Temperature of the— Air.		Pendulum. P_a	Pendulum. P_c	$1.71A^2$	Sums.		Corrections for— Arc.	Temperature.		Barometer.	Total.
	h.	m.	°	°	°	°	°	s.	°	°	s.	s.	s.	s.	s.
− 8	11	54	1.89	45.0	33.2	48.5	34.6	6.1	− 5.6	−116.0	16.0	− 1.9	−15.7	− 0.2	−0.02
7	0	09	1.44	45.2	34.1	48.6	35.0	3.5	− 4.2	−100.6	9.9	− 1.4	−13.6	− 0.2	.05
6		24	1.16	46.7	34.9	48.9	35.4	2.3	− 2.7	− 85.6	6.4	− 0.9	−11.6	− 0.2	.06
5		39	0.93	48.8	35.7	49.5	35.8	1.5	− 1.1	− 56.8	2.6	− 0.4	− 7.7	− 0.1	.06
4		54	0.75	50.1	36.1	49.8	36.0	1.0							
3	1	09	0.65	49.9	35.8	49.8	35.9	0.7							
2		24	0.56	49.6	35.5	49.7	35.7	0.5							
− 1		39	0.47	49.4	35.2	49.6	35.6	0.4							
0		54	0.40	49.3	35.2	49.6	35.6	0.3							
+ 1	2	09	0.34	49.8	35.6	49.7	35.7	0.2							
2		24	0.30	50.2	36.1	49.8	36.0	0.2							
3		39	0.26	50.6	36.6	49.9	36.2	0.1	− 1.0	− 56.5	0.8	− 0.3	− 7.6	− 0.1	.07
4		54	0.22	51.3	37.2	50.1	36.6	0.1							
5	3	09	0.19	52.4	37.9	50.4	36.9	0.1	− 0.5	− 83.0	1.0	− 0.2	−11.2	− 0.2	.11
6		24	0.16	53.1	38.3	50.5	37.1	0.1	0.0	− 95.9	1.1	0.0	−12.9	− 0.2	.12
7		39	0.14	53.1	37.7	50.6	36.8	0.0	+ 0.6	−109.1	1.1	+ 0.2	−14.7	− 0.2	−0.14
+ 8		54													
Mean				49.7	35.9										

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd.	Δ
	s.	s.	s.	s.	s.				s.	s.	s.	s.	
− 8	.11	.32	.55	.61	.40	− 12	− 02	.26	+ 6.75	+ 6.61	52.9	+ 6.48	+13
7	.16	.16	.26	.42	.25		− 05	.20	5.81	5.67	39.7	5.67	0
6	.02	.08	.12	.12	.09		− 05	.03	4.98	4.84	29.0	4.86	− 2
− 4	.70	.78	.76	.86	.78		− 06	.72	+ 3.29	+ 3.15	12.6	+ 3.24	− 9
0	.98	.96	.06	.06	.01			.01		− 0.14			−14
+ 4	.10	.16	.18	.24	.17		+ 07	.24	− 3.23	3.37	13.5	− 3.24	−13
6	.58	.62	.62	.64	.61		+ 11	.72	4.71	4.85	29.1	4.86	+ 1
7	.38	.34	.38	.48	.39		+ 12	.51	5.50	5.64	39.5	5.67	+ 3
+ 8	.12	.17	.22	.43	.23	− 12	+ 14	.25	− 6.24	− 6.38	51.0	− 6.48	+10
									−19.68		267.3		
									+20.83	15ᵐ excess	− 0.810		
									+ 1.15	24ʰ	− 77.8		
									+ 0.14	A	+238.1		
											160.3 = V		

REDUCTION FOR COOLING.

I.	Interval observed.	Correction for cooling.	Interval corrected.	Interval from mean.	Product.	Computed.	Δ
	s.	s.	s.	s.	s.	s.	
− 8	+ 6.75	+ .18	+ 6.93	+ 6.91	− 55.3	+ 6.85	+ 6
7	5.81	.18	5.99	5.97	41.8	5.99	− 2
6	4.98	.17	5.15	5.13	30.8	5.14	− 1
− 4	+ 3.29	+ .14	+ 3.43	+ 3.41	13.6	+ 3.42	− 1
0				− 0.02			− 2
+ 4	− 3.23	− .23	− 3.46	3.48	13.9	− 3.42	− 6
6	4.71	.38	5.09	5.11	30.7	5.14	+ 3
7	5.50	.46	5.96	5.98	41.9	5.99	+ 1
+ 8	− 6.24	− .55	− 6.79	− 6.81	− 54.5	− 6.85	+ 4
	−19.68		−21.30		−282.5		
	+20.83		+21.50		− 0.856	15ᵐ excess	
	+ 1.15	:400	+ 0.20		+ 2.480	15 rate	
	+ 0.0288		+ 0.02		+ 1.624	× 96	
					155.9	= V	

Face 2.

15ᵐ interval.	Chronometer-time.		Arc.	Temperature of the— Air.		Pendulum. P_a	Pendulum. P_c	$1.71A^2$	Sums.	Corrections for— Arc.	Temperature.		Barometer.	Total.
	h.	m.	°	°	°	°	°	s.	° °	s.	s.	s.	s.	s.
− 8	7	00												
			1.52	65.5	56.6	64.3	55.1	4.0	113.8 + 38.2	10.6	+38.2	+ 5.2	− 0.2	+0.54
7		15												
			1.15	66.4	56.4	64.5	54.9	2.3	99.5 + 33.1	6.6	+33.3	+ 4.5	− 0.2	.44
6		30												
			0.91	67.1	57.2	64.7	55.3	1.4	85.0 + 28.2	4.3	+28.5	+ 3.8	− 0.2	.36
5		45												
			0.76	67.2	57.1	64.7	55.3	1.0	55.6 + 17.6	1.9	+18.6	+ 2.4	− 0.1	.23
4	8	00												
			0.64	66.9	56.8	64.6	55.1	0.7						
3		15												
			0.54	64.8	55.8	64.1	54.7	0.5						
2		30												
			0.46	63.0	54.7	63.7	54.1	0.4						
− 1		45												
			0.39	61.2	53.8	63.2	53.7	0.3						
0	9	00												
			0.33	60.1	52.8	63.2	53.2	0.2						
+ 1		15												
			0.28	61.0	51.9	63.2	52.7	0.1						
2		30												
			0.24	61.8	50.9	63.4	52.2	0.1						
3		45												
			0.21	62.5	50.1	63.6	51.8	0.1	53.4 + 9.9	0.5	+17.9	+ 1.3	0.0	.20
4	10	00												
			0.19	63.1	49.7	63.7	51.6	0.1						
5		15												
			0.17	63.6	50.4	63.8	52.0	0.1	80.9 + 13.5	0.7	+27.1	+ 1.8	0.0	.30
6		30												
			0.15	63.9	51.0	63.9	52.3	0.0	94.8 + 15.8	0.7	+31.8	+ 2.1	− 0.1	.35
7		45												
			0.14	64.2	51.3	64.0	52.4	0.0	108.8 + 18.2	0.7	+35.4	+ 2.5	− 0.1	+0.40
+ 8	11	00												
Mean				63.9	53.5									

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd.	Δ
	s.	s.	s.	s.	s.				s.	s.	s.	s.	
− 8	.55	.63	.77	.88	.70	− 12	+ 54	.12	+ 5.95	+ 5.79	− 46.3	+ 5.67	+12
7	.38	.52	.58	.58	.51		+ 44	.95	5.12	4.95	34.7	4.96	− 1
6	.28	.18	.24	.40	.28		+ 36	.64	4.43	4.26	25.6	4.25	+ 1
− 4	.84	.81	.98	.04	.92		+ 23	.15	+ 2.92	+ 2.75	11.0	+ 2.84	− 9
0	.00	.01	.12	.12	.07			.07		− 0.17			−17
+ 4	.02	.02	.06	.08	.04		− 20	.84	− 2.77	2.94	11.8	− 2.84	−10
6	.42	.42	.54	.60	.50		− 30	.20	4.13	4.30	25.8	4.25	− 5
7	.18	.16	.18	.20	.18		− 35	.83	4.76	4.93	34.5	4.96	+ 3
+ 8	.81	.94	.09	.09	.98	− 12	− 40	.46	− 5.39	− 5.56	− 44.5	− 5.67	+11
									−17.05		−234.0		
									+18.40	15ᵐ excess	− 0.709		
									+ 1.35	24ʰ	− 68.1		
									+ 0.17	A	+238.1		
											70.0 = V		

REDUCTION FOR COOLING.

I.	Interval observed.	Correction for cooling.	Interval corrected.	Interval from mean.	Product.	Computed.	Δ
	s.	s.	s.	s.	s.	s.	
− 8	+ 5.95	+ .22	+ 6.17	+ 6.14	− 49.1	+ 6.10	+ 4
7	5.12	.21	5.33	5.30	37.1	5.34	− 4
6	4.43	.20	4.63	4.60	27.6	4.58	− 2
− 4	+ 2.92	+ .16	+ 3.08	+ 3.05	12.2	+ 3.05	0
0				− 0.03			− 3
+ 4	− 2.77	− .27	− 3.04	3.07	12.3	− 3.05	− 2
6	4.13	.45	4.58	4.61	27.7	4.58	− 3
7	4.76	.54	5.30	5.33	37.3	5.34	+ 1
+ 8	− 5.39	− .65	− 6.04	− 6.07	− 48.6	− 6.10	+ 3
	−17.05		−18.96		−251.9		
	+18.40		+19.21		− 0.763		
	+ 1.35	: 400	+ 0.25		+ 2.480		
	+ 0.0338		+ 0.03		+ 1.717		
					164.8 = V		

Face 4.

15^m interval.	Chronometer-time.	Arc.	Temperature of the— Air.		Pendulum. P_a	Pendulum. P_c	$1.71A^2$	Sums.		Corrections for— Arc.	Temperature.		Barometer.	Total.
	h. m.	°	°	°	°	°	s.	°	°	s.	s.	s.	s.	s.
— 8	0 19.5	1.72	59.7	48.5	59.6	48.7	5.1	78.4	— 12.0	14.4	+26.3	— 1.6	+ 0.3	+0.39
7	34.5	1.37	60.1	49.1	59.7	49.0	3.2	68.8	— 10.7	9.3	+23.0	— 1.4	+ 0.3	.31
6	49.5	1.11	60.7	49.2	59.9	49.1	2.1	59.1	— 9.7	6.1	+19.8	— 1.3	+ 0.2	.25
5	1 04.5	0.91	60.2	47.0	59.8	47.9	1.4	39.4	— 6.7	2.6	+13.2	— 0.9	+ 0.1	.15
4	19.5	0.76	59.9	45.7	59.7	47.3	1.0							
3	34.5	0.65	60.3	47.1	59.8	48.0	0.7							
2	49.5	0.55	60.8	48.5	59.9	48.7	0.5							
— 1	2 04.5	0.46	61.1	49.7	60.0	49.3	0.4							
0	19.5	0.39	61.0	50.5	59.9	49.7	0.3							
+ 1	34.5	0.33	61.0	50.1	59.9	49.5	0.2							
2	49.5	0.29	58.8	49.6	59.4	49.2	0.1							
3	3 04.5	0.25	57.7	49.3	59.1	49.1	0.1	38.3	— 2.5	0.7	+12.8	— 0.3	+ 0.1	.13
4	19.5	0.21	57.2	49.1	59.0	49.0	0.1							
5	34.5	0.18	57.6	49.5	59.1	49.2	0.1	56.4	— 4.3	0.9	+18.9	— 0.6	+ 0.2	.19
6	49.5	0.16	58.3	49.9	59.3	49.4	0.0	65.7	— 4.9	0.9	+22.0	— 0.7	+ 0.3	.22
7	4 04.5	0.14	58.6	50.0	59.4	49.5	0.0	75.1	— 5.4	0.9	+25.2	— 0.7	+ 0 3	+0.26
+ 8	19.5													
Mean			59.6	48.9										

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	[illegible]	Trans.	Interval.	Observed.	Product.	Comput'd.	Δ
	s.	s.	s.	s.	s.				s.	s.	s.	s.	
— 8	.16	.40	.54	.60	.42	— 12	+ 35	.79	+ 6.19	+ 6.09	— 48.7	+ 5.99	+10
7	.26	.36	.36	.52	.37	— 6	+ 31	.62	5.36	5.26	36.8	5.24	+ 2
6	.98	.12	.24	.26	.15		+ 25	.40	4.58	4.48	26.9	4.49	— 1
— 4	.70	.78	.78	.90	.79		+ 15	.94	+ 3.04	+ 2.94	11.8	+ 3.00	— 6
0	.92	.92	.04	.06	.98			.98		— 0.10			—10
+ 4	.00	.06	.10	.08	.06		— 13	.93	— 2.95	3.05	12.2	— 3.00	— 5
6	.58	.62	.58	.60	.60		— 19	.41	4.43	4.53	27.2	4.49	— 4
7	.34	.28	.32	.44	.37	— 4	— 22	.11	5.13	5.23	36.6	5.24	+ 1
+ 8	.03	.05	.09	.30	.12	— 12	— 26	.74	— 5.76	— 5.86	— 46.9	— 5.99	+13
									—18.27		—247.1		
									+19.17	15^m excess	— 0.749		
									+ 0.90	24^h	— 71.9		
									+ 0.10	A	+238.1		
											66.2 = V		

REDUCTION FOR COOLING.

I.	Interval observed.	Correction for cooling.	Interval corrected.	Interval from mean.	Product.	Computed.	Δ
	s.	s.	s.	s.	s.	s.	
— 8	+ 6.19	+ .14	+ 6.33	+ 6.31	— 50.5	+ 6.28	+ 3
7	5.36	.14	5.50	5.48	38.4	5.50	— 2
6	4.58	.13	4.71	4.69	28.1	4.71	— 2
— 4	+ 3.04	+ .11	+ 3.15	+ 3.13	12.5	+ 3.14	— 1
0				— 0.02			— 2
+ 4	— 2.95	— .18	— 3.13	3.15	12.6	— 3.14	— 1
6	4.43	.30	4.73	4.75	28.5	4.71	— 4
7	5.13	.36	5.49	5.51	38.6	5.50	— 1
+ 8	— 5.76	— .43	— 6.19	— 6.21	— 49.7	— 6.28	+ 7
	—18.27		—19.54		—258.9		
	+19.17		+19.69		— 0.785		
	+ 0.90	: 400	+ 0.15		+ 2.480		
	+ 0.0225		+ 0.02		+ 1.695		
					162.7 = V		

Face 4.

15m interval.	Chronometer-time.		Arc.	TEMPERATURE OF THE— Air.		Pendulum. P_a	P_c	$1.71A^2$	Sums.	CORRECTIONS FOR— Arc.	Temperature.		Barometer.	Total.
	h.	m.	°	°	°	°	°	s.	° °	s.	s.	s.	s.	s.
− 8	6	57	1.01	63.5	53.1	64.7	53.2	1.7	122.0 + 33.3	5.5	+40.9	+ 4.5	− 0.1	+0.51
7	7	12	0.82	64.7	53.8	65.0	53.5	1.1	107.3 + 30.1	3.6	+35.9	+ 4.1	− 0.1	.43
6		27	0.68	65.4	53.6	65.2	53.4	0.8	92.3 + 26.6	2.5	+30.9	+ 3.6	− 0.1	.37
5		42	0.57	65.7	54.6	65.3	53.9	0.6						
4		57	0.48	66.3	55.3	65.4	54.2	0.4	61.8 + 19.3	1.1	+20.7	+ 2.6	− 0.1	.24
3	8	12	0.42	66.4	56.0	65.4	54.6	0.3						
2		27	0.36	66.6	57.0	65.5	55.1	0.2						
− 1		42	0.30	66.7	57.6	65.5	55.4	0.2						
0		57	0.26	66.6	57.2	65.5	55.2	0.1						
+ 1	9	12	0.23	66.2	55.3	65.4	54.2	0.1						
2		27	0.20	65.6	53.3	65.2	53.3	0.1						
3		42	0.17	65.2	51.3	65.1	52.2	0.0						
4		57	0.15	64.6	49.7	65.0	51.4	0.0	61.2 + 14.9	0.3	+20.5	+ 2.0	− 0.1	.23
5	10	12	0.13	63.6	48.9	64.7	51.0	0.0						
6		27	0.11	62.4	47.9	64.4	50.6	0.0	90.9 + 17.3	0.3	+30.5	+ 2.3	− 0.1	.33
7		42	0.08	61.6	46.8	64.2	50.0	0.0	105.3 + 17.9	0.3	+35.3	+ 2.4	− 0.1	.38
+ 8		57							119.5 + 17.9	0.3	+40.0	+ 2.4	− 0.1	+0.43
Mean				65.1	53.2									

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd.	Δ
	s.	s.	s.	s.	s.				s.	s.	s.	s.	
− 8	.85	.92	.06	.13	.99	− 10	+ 51	.40	+ 5.22	+ 5.27	− 42.2	+ 5.26	+ 1
7	.56	.62	.60	.62	.60		+ 43	.03	4.59	4.62	32.3	4.60	+ 2
6	.36	.30	.46	.56	.42		+ 37	.79	3.83	3.86	23.2	3.94	− 8
− 4	.66	.72	.72	.90	.75		+ 24	.99	+ 2.63	2.66	10.6	+ 2.63	+ 3
0	.58	.62	.61	.64	.62			.62		+ 0.03			+ 3
+ 4	.58	.54	.60	.62	.58	− 21	− 23	.34	− 2.72	− 2.65	10.6	− 2.63	− 2
6	.32	.28	.42	.52	.38	− 36	− 33	.69	4.07	3.93	23.6	3.94	+ 1
7	.60	.62	.62	.70	.63	− 0	− 38	.25	4.63	4.58	32.1	4.60	+ 2
+ 8	.38	.46	.51	.56	.48	− 10	− 43	.95	− 5.33	− 5.28	− 42.2	− 5.26	− 2
									−16.75		−216.8		
									+16.27	15m excess	− 0.657		
									− 0.48	24h	− 63.1		
									− 0.03	A	+238.1		
											75.0 = V		

NOTE.—The same face as the day before. The box was kept closed; hence the temperature of the pendulum far below that of the air, as indicated by the thermometers. The general mean of the temperature of the lower thermometer = 44° ± 4°, which may be used. Result = 68.5 ± 1.6 ± ε.

Face 2.

15ᵐ interval.	Chronometer-time.	Arc.	Temperature of the— Air.		Pendulum. P_a	Pendulum. P_c.	$1.71A^2$	Sums.	Corrections for— Arc.	Temperature.		Barometer.	Total.
	h. m.	°	°	°	°	°	s.	° °	s.	s.	s.	s.	s.
— 8	0 26.7	2.05	57.5	43.0	56.6	42.4	7.2	+54.6 — 57.2	18.3	+18.3	— 7.7	— 0.1	+0.29
7	41.7	1.55	58.2	44.4	56.8	43.1	4.1	48.0 — 49.6	11.1	+16.1	— 6.7	— 0.1	.20
6	56.7	1.22	58.8	45.1	56.9	43.4	2.5	41.2 — 42.7	7.0	+13.8	— 5.8	— 0.1	.15
5	1 11.7	0.98	58.9	45.0	56.9	43.4	1.6						
4	26.7	0.80	59.0	44.8	57.0	43.3	1.1	27.4 — 29.5	2.9	+ 9.2	— 4.0	0.0	.08
3	41.7	0.67	58.5	43.8	56.9	42.8	0.8						
2	56.7	0.57	58.2	42.9	56.8	42.4	0.6						
— 1	2 11.7	0.49	57.8	42.1	56.7	42.0	0.4						
0	26.7	0.42	57.4	41.4	56.6	41.6	0.3						
+ 1	41.7	0.35	57.1	41.2	56.5	41.5	0.2						
2	56.7	0.29	55.6	40.9	56.1	41.3	0.2						
3	3 11.7	0.24	55.4	40.7	56.1	41.2	0.1						
4	26.7	0.20	54.4	39.9	55.8	40.8	0.1	25.3 — 34.4	0.8	+ 8.5	— 4.9	— 0.1	.04
5	41.7	0.17	52.5	38.2	55.4	40.0	0.0						
6	56.7	0.15	50.8	37.1	54.9	39.5	0.0	36.5 — 53.6	0.9	+12.2	— 7.2	— 0.1	.06
7	4 11.7	0.14	50.1	37.7	54.7	39.7	0.0	41.4 — 64.1	0.9	+13.9	— 8.7	— 0.1	.06
+ 8	26.7							+46.1 — 74.4	0.9	+15.4	—10.0	— 0.1	+0.06
Mean			56.3	41.8									

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd.	Δ
	s.	s.	s.	s.	s.				s.	s.	s.	s.	
— 8	.67	.65	.85	.98	.79	— 12	+ 29	.96	+ 6.02	+ 5.80	— 46.4	+ 5.58	+22
7	.62	.60	.68	.60	.62		+ 20	.82	5.16	4.94	34.6	4.89	+ 5
6	.48	.52	.52	.60	.53	— 5	+ 15	.63	4.37	4.15	24.9	4.19	— 4
— 4	.96	.10	.08	.14	.07		+ 8	.15	+ 2.83	+ 2.61	10.4	+ 2.79	—17
0	.96	.98	.96	.00	.98			.98		— 0.22			—22
+ 4	.64	.68	.72	.64	.67		— 4	.63	— 2.65	2.87	11.5	— 2.79	— 8
6	.98	.00	.04	.10	.03		— 6	.97	3.99	4.21	25.3	4.19	— 2
7	.58	.68	.58	.62	.61		— 6	.56	4.58	4.80	33.6	4.89	+ 9
+ 8	.20	.31	.49	.54	.38	— 12	— 6	.20	— 5.22	— 5.44	— 43.5	— 5.58	+14
									—16.44		—230.2		
									+18.38	15ᵐ excess	— 0.698		
									+ 1.94	24ʰ	— 67.0		
									+ 0.22	A	+238.1		
											71.1 = V		

REDUCTION FOR COOLING.

I.	Interval observed.	Correction for cooling.	Interval corrected.	Interval from mean.	Product.	Computed.	Δ
	s.	s.	s.	s.	s.	s.	
— 8	+ 6.02	+ .31	+ 6.33	+ 6.29	— 50.3	+ 6.20	+ 9
7	5.16	.31	5.47	5.43	38.0	5.42	+ 1
6	4.37	.29	4.66	4.62	27.7	4.65	— 3
— 4	+ 2.83	+ .23	+ 3.06	+ 3.02	12.1	+ 3.10	— 8
0				— 0.04			— 4
+ 4	— 2.65	— .39	— 3.04	3.08	12.3	— 3.10	+ 2
6	3.99	.64	4.63	4.67	28.0	4.65	— 2
7	4.58	.78	5.36	5.40	37.8	5.42	+ 2
+ 8	— 5.22	— .93	— 6.15	— 6.19	— 49.5	— 6.20	+ 1
	—16.44		—19.18		—255.7		
	+18.38		+19.52		— 0.775		
	+ 1.94 : 400		+ 0.34		+ 2.480		
	+ 0.0485		+ 0.04		+ 1.705		
					163.7		

Face 3.

15ᵐ interval.	Chronometer-time.	Arc.	Temperature of the— Air.		Pendulum. P_a	P_c	$1.71A^2$	Sums.	Corrections for— Arc.	Temperature.		Barometer.	Total.
	h. m.	°	°	°	°	°	s.	° °	s.	s.	s.	s.	s.
− 8	7 01.9	1.97	66.7	52.2	59.0	48.1	6.6	60.2 − 32.5	17.9	+20.2	− 4.4	− 0.4	+0.33
7	16.9	1.53	65.3	51.8	58.6	47.9	4.0	51.2 − 30.6	11.3	+17.2	− 4.1	− 0.4	.24
6	31.9	1.21	63.0	52.1	58.1	48.1	2.5	42.6 − 28.5	7.3	+14.3	− 3.8	− 0.3	.17
5	46.9	0.99	60.0	47.3	57.3	45.7	1.7						
4	8 01.9	0.84	58.0	45.2	56.8	44.7	1.2	27.2 − 22.3	3.1	+ 9.1	− 3.0	− 0.2	.09
3	16.9	0.72	58.0	44.9	56.8	44.5	0.9						
2	31.9	0.61	57.9	44.6	56.8	44.3	0.6						
− 1	46.9	0.51	57.9	44.3	56.8	44.2	0.4						
0	9 01.9	0.43	57.5	43.9	56.7	44.0	0.3						
+ 1	16.9	0.37	55.8	43.2	56.3	43.7	0.2						
2	31.9	0.32	54.0	42.4	55.8	43.3	0.2						
3	46.9	0.27	52.5	41.8	55.4	42.9	0.1						
4	10 01.9	0.22	50.9	40.4	55.0	42.3	0.1	24 2 − 26.1	0.8	+ 8.1	− 3.5	− 0.2	.05
5	16.9	0.19	49.3	37.8	54.6	40.9	0.1						
6	31.9	0.16	47.9	36.3	54.3	40.2	0.0	33.8 − 42.9	1.0	+11.3	− 5.8	− 0.3	.06
7	46.9	0 14	47.7	37.3	54.2	40.7	0.0	38.1 − 52.7	1.0	+12.8	− 7.1	− 0.4	.06
+ 8	11 01.9							42.3 − 62.0	1.0	+14.2	− 8.4	− 0.4	+0.06
Mean			56.4	44.1									

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd.	Δ
	s.	s.	s.	s.	s.				s.	s.	s.	s.	
− 8	.15	.24	.39	.51	.32	− 12	+ 33	.53	+ 6.54	+ 6.36	− 50.1	+ 6.21	+15
7	.18	.12	.12	.22	.16		+ 24	.40	5.67	5.49	38.4	5.43	+ 6
6	.14	.06	.04	.12	.09		+ 17	.26	4.81	4.63	27.8	4.66	− 3
− 4	.70	.74	.78	.84	.76		+ 9	.85	+ 3.22	+ 3.04	12.2	+ 3.10	− 6
0	.08	.06	.04	.10	.07			.07		− 0.18			−18
+ 4	.10	.10	.16	.20	.14		− 5	.09	− 3.02	3.20	12.8	− 3.10	−10
6	.58	.58	.68	.64	.62		− 6	.56	4.49	4.67	28.0	4.66	− 1
7	.22	.32	.38	.46	.35		− 6	.29	5.22	5.40	37.8	5.43	+ 3
+ 8	.05	.10	.20	.33	.17	− 12	− 6	.99	− 5.92	− 6.10	− 48.8	− 6.21	+11

−18.65		−255.9
+20.24	15ᵐ excess	− 0.776
+ 1.59	24ʰ	− 74.5
+ 0.18	A.	+238.1
		63.6 = V

REDUCTION FOR COOLING.

I.	Interval observed.	Correction for cooling.	Interval corrected.	Interval from mean.	Product.	Computed.	Δ
	s.	s.	s.	s.	s.	s.	
− 8	+ 6.54	+ .25	+ 6.79	+ 6.76	− 54.1	+ 6.73	+ 3
7	5.67	.25	5.92	5.89	41.2	5.89	0
6	4.81	.24	5.05	5.02	30.1	5.05	− 3
− 4	+ 3.22	+ .19	+ 3.41	+ 3.38	13.5	+ 3.36	+ 2
0				− 0.03			− 3
+ 4	− 3.02	− .32	− 3.34	− 3.37	13.5	− 3.36	− 1
6	4.49	.53	5.02	5.05	30.3	5.05	0
7	5.22	.64	5.86	5.89	41.2	5.89	0
+ 8	− 5.92	− .76	− 6.68	− 6.71	− 53.7	− 6.73	+ 2

−18.65		−20.90	−277.6
+20.24		+21.17	− 0.841
+ 1.59	: 400	+ 0.27	+ 2.480
+ 0.0398		+ 0.03	+ 1.639
			157.3

Face I.

15m interval.	Chronometer-time.		Arc.	TEMPERATURE OF THE— Air.		Pendulum. P_a	Pendulum. P_c	$1.71A^2$	Sums.	CORRECTIONS FOR— Arc.	Temperature.		Barometer.	Total.
	h.	m.	°	°	°	°	°	s.	° °	s.	s.	s.	s.	s.
− 8	0	37	2.25	62.6	49.5	60.4	47.8	8.7	78.8 − 25.2	22.4	+26.4	− 3.4	− 0.5	+0.45
7		52	1.72	62.3	49.8	60.3	49.0	5.1	68.4 − 23.1	13.7	+22.9	− 3.1	− 0.4	.33
6	1	07	1.34	61.5	48.7	60.1	47.4	3.1	58.1 − 22.1	8.6	+19.5	− 3.0	− 0.3	.25
5		22	1.07	59.9	47.0	59.8	46.6	2.0						
4		37	0.88	58.9	46.0	59.5	46.1	1.3	38.2 − 16.1	3.5	+12.8	− 2.2	− 0.2	.14
3		52	0.76	59.0	45.8	59.5	46.0	1.0						
2	2	07	0.64	59.2	45.6	59.6	45.9	0.7						
− 1		22	0.54	59.4	45.5	59.6	45.9	0.5						
0		37	0.45	59.5	45.4	59.6	45.8	0.4						
+ 1		52	0.39	59.5	45.3	59.6	45.8	0.3						
2	3	07	0.34	59.5	45.2	59.6	45.7	0.2						
3		22	0.29	59.5	45.1	59.6	45.7	0.1	38.4 − 17.0	1.0	+12.9	− 2.3	− 0.2	.11
4		37	0.25	59.4	44.9	59.6	45.6	0.1						
5		52	0.22	58.9	44.7	59.5	45.5	0.1	57.5 − 25.9	1.2	+19.3	− 3.5	− 0.3	.17
6	4	07	0.19	58.5	44.8	59.4	45.5	0.1	66.9 − 30.4	1.3	+22.4	− 4.1	− 0.4	.19
7		22	0.17	58.4	45.3	59.4	45.7	0.0	76.3 − 34.7	1.3	+25.6	− 4.7	− 0.5	+0.22
+ 8		37												
Mean.				59.7	46.2									

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd.	△
	s.	s.	s.	s.	s.				s.	s.	s.	s.	
− 8	.41	.54	.65	.79	.60	− 12	+ 45	.93	+ 6.67	+ 6.59	− 52.7	+ 6.50	+ 9
7	.44	.44	.50	.58	.49		+ 33	.82	5.78	5.70	39.9	5.69	+ 1
6	.28	.42	.48	.56	.44		+ 25	.69	4.91	4.83	29.0	4.88	− 5
− 4	.10	.06	.22	.26	.16		+ 14	.30	+ 3.30	+ 3.22	12.9	+ 3.25	− 3
0	.58	.60	.60	.62	.60			.60		− 0.08			− 8
+ 4	.88	.90	.94	.00	.91		− 11	.80	− 3.20	3.28	13 1	− 3.25	− 3
6	.54	.62	.60	.64	.60		− 17	.43	4.83	4.91	29.5	4.88	− 3
7	.38	.28	.44	.46	.39		− 19	.20	5.60	5.68	39.8	5.69	+ 1
+ 8	.21	.15	.35	.43	.28	− 12	− 22	.94	− 6.34	− 6.42	− 51.4	− 6.50	+ 8
									−19.97		−268.3		
									+20.66	15^m excess	− 0.813		
									+ 0.69	24^h	− 78.0		
									+ 0.08	A	+238.1		
											60.1 = V		

REDUCTION FOR COOLING.

I.	Interval observed.	Correction for cooling.	Interval corrected.	Interval from mean.	Product.	Computed.	△
	s.	s.	s.	s.	s.	s.	
− 8	+ 6.67	+ .11	+ 6.78	+ 6.77	− 54.2	+ 6.73	+ 4
7	5.78	.11	5.89	5.88	41.2	5.89	− 1
6	4.91	.11	5.02	5.01	30.1	5.05	− 4
− 4	+ 3.30	+ .08	+ 3.38	+ 3.37	13.5	+ 3.36	+ 1
0				− 0.01			− 1
+ 4	− 3.20	− .14	− 3.34	3.35	13.4	− 3.36	+ 1
6	4.83	.23	5.06	5.07	30.4	5.05	− 2
7	5.60	.28	5.88	5.89	41.2	5.89	0
	− 6.34	− .33	− 6.67	− 6.68	− 53.4	− 6.73	+ 5
	−19.97		−20.95		−277.4		
	+20.66		+21.07		− 0.841		
	+ 0.69	:400	+ 0.12		+ 2.480		
	+ 0.0173		+ 0.01		+ 1.639		
					157.3		

Face 3.

15m interval.	Chronometer-time.	Arc.	Temperature of the— Air.		Pendulum. P_a	P_c	$1.71A^2$	Sams.		Corrections for— Arc.	Temperature.		Barometer.	Total.
	h. m.	°	°	°	°	°	s.			s.	s.	s.	s.	s.
− 8	7 06.8	1.88	35.3	27.5	39.4	29.5	6.1	−82.6	−163.2	16.3	−27.7	−22.0	−0.7	−0.34
7	21.8	1.47	35.6	27.9	39.5	29.7	3.7	−72.0	−142.7	10.2	−24.1	−19.3	−0.6	.34
6	36.8	1.18	35.9	27.5	39.6	29.5	2.4	−61.5	−122.4	6.5	−20.6	−16.5	−0.5	.31
5	51.8	0.94	35.3	26.0	39.4	28.8	1.5							
4	8 06.8	0.76	35.3	25.5	39.4	28.5	1.0	−40.5	−80.7	2.6	−13.6	−10.9	−0.4	.22
3	21.8	0.63	36.6	27.3	39.7	29.4	0.7							
2	36.8	0.54	37.9	29.2	40.1	30.4	0.5							
− 1	51.8	0.47	39.0	30.5	40.3	31.0	0.4							
0	9 06.8	0.40	40.4	32.3	40.7	31.9	0.3							
+ 1	21.8	0.34	42.3	33.3	41.2	32.6	0.2							
2	36.8	0.28	44.4	34.3	41.7	32.9	0.1							
3	51.8	0.24	46.0	35.3	42.1	33.4	0.1							
4	10 06.8	0.21	47.1	36.0	42.4	33.7	0.1	−34.3	−69.2	0.7	−11.5	−9.3	−0.4	.21
5	21.8	0.18	46.4	36.0	42.2	33.7	0.1							
6	36.8	0.15	46.7	36.8	42.3	34.2	0.0	−49.7	−101.8	0.9	−16.6	−13.7	−0.6	.30
7	51.8	0.12	48.6	38.4	42.7	35.0	0.0	−57.4	−117.6	0.9	−19.2	−15.9	−0.7	.35
+ 8	11 06.8							−64.7	−132.6	0.9	−21.7	−17.9	−0.8	−0.40
Mean			40.8	31.5										

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	*i*	*r*	Trans.	Interval.	Observed.	Product.	Comput'd.	Δ
	s.	s.	s.	s.	s.				s.	s.	s.	s.	
− 8	.45	.55	.60	.68	.57	− 12	− 34	.11	+ 6.56	+ 6.50	− 52.0	+ 6.30	+20
7	.32	.34	.44	.52	.41		− 34	.07	5.60	5.54	38.8	5.52	+ 2
6	.18	.16	.30	.36	.25		− 31	.94	4.73	4.67	28.0	4.73	− 6
− 4	.74	.74	.86	.86	.80		− 22	.58	+ 3.09	+ 3.03	12.1	+ 3.16	−13
0	.60	.68	.68	.70	.67			.67		− 0.06			− 6
+ 4	.62	.62	.60	.60	.61		+ 21	.82	− 3.15	3.21	12.8	− 3.16	− 5
6	.04	.98	.98	.04	.01		+ 30	.31	4.64	4.70	28.2	4.73	+ 3
7	.72	.72	.78	.80	.76		+ 35	.11	5.44	5.50	38.5	5.52	+ 2
+ 8	.53	.55	.58	.63	.57	− 12	+ 40	.85	− 6.18	− 6.24	− 49.9	− 6.31	+ 7
									−19.41		−260.3		
									+19.98	15m excess	− 0.789		
									+ 0.57	24h	− 75.7		
									+ 0.06	A	+238.1		
											62.4 = V		

REDUCTION FOR COOLING.

I.	Interval observed.	Correction for cooling.	Interval corrected.	Interval from mean.	Product.	Computed.	Δ
	s.	s.	s.	s.	s.	s.	
− 8	+ 6.56	+ 0.09	+ 6.65	+ 6.64	− 53.1	+ 6.50	+ 14
7	5.60	.09	5.69	5.68	39.8	5.68	0
6	4.73	.09	4.82	4.81	28.9	4.87	− 6
− 4	+ 3.09	+ 0.07	+ 3.16	+ 3.15	12.6	+ 3.25	− 10
0				− 0.01			− 1
+ 4	− 3.15	− 0.11	− 3.26	3.27	13.1	− 3.25	− 2
6	4.64	.19	4.83	4.83	29.0	4.87	+ 4
7	5.44	.23	5.67	5.68	39.8	5.68	0
+ 8	− 6.18	− 0.27	− 6.45	− 6.46	− 51.7	− 6.50	+ 4
	−19.41		−20.21		−268.0		
	+19.98		+20.32		− 0.812		
	+ 0.57	: 400	+ 0.11		+ 2.480		
	+ 0.0143		+ 0.01		+ 1.668		
					160.1		

Face 1.

15m interval.	Chronometer-time.	Arc.	Temperature of the— Air.		Pendulum. P_a	P_c	$1.71A^2$	Sums.		Corrections for— Arc.	Temperature.		Barometer.	Total.
	h. m.	°	°	°	°	°	s.	°	°	s.	s.	s.	s.	s.
− 8	0 44.2							−27.7	−126.0	23.0	− 9.3	−17.0	− 0.7	−0.04
7	59.2	2.35	49.4	38.3	47.9	36.4	9.4	−25.6	−112.4	13.6	− 8.6	−15.2	− 0.6	.11
6	1 14.2	1.72	45.0	36.4	46.8	35.5	5.0	−22.4	− 97.9	8.6	− 7.5	−13.2	− 0.5	.13
5	29.2	1.34	44.1	35.0	46.6	34.8	3.1							
4	44.2	1.08	42.0	32.6	46.1	33.5	2.0	−15.1	− 66.2	3.5	− 5.1	− 8.9	− 0.4	.11
3	59.2	0.87	41.2	31.3	45.8	32.9	1.3							
2	2 14.2	0.75	42.7	32.0	46.2	33.3	1.0							
− 1	29.2	0.63	44.5	32.7	46.7	33.6	0.7							
0	44.2	0.53	46.5	33.5	47.2	34.0	0.5							
+ 1	59.2	0.43	47.6	34.0	47.5	34.3	0.3							
2	3 14.2	0.39	48.6	34.4	47.7	34.4	0.3							
3	29.2	0.34	49.8	34.8	48.0	34.6	0.2							
4	44.2	0.30	51.0	35.1	48.3	34.8	0.2	− 8.5	− 61.9	1.0	− 2.8	− 8.4	− 0.4	.11
5	59.2	0.26	51.5	35.3	48.4	34.9	0.1							
6	4 14.2	0.22	51.1	35.2	48.3	34.8	0.1	−11.8	− 92.2	1.2	− 4.0	−12.4	− 0.6	.16
7	29.2	0.19	51.2	35.2	48.3	34.8	0.1	−13.5	−107.4	1.3	− 4.5	−14.5	− 0.7	.18
+ 8	44.2	0.16	52.3	36.5	48.6	35.5	0.0	−14.9	−121.9	1.3	− 5.0	−16.5	− 0.8	−0.21
Mean			47.4	34.5										

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd.	Δ
	s.	s.	s.	s.	s.				s.	s.	s.	s.	
− 8	.92	.05	.15	.37	.12	− 12	− 4	.96	+ 6.65	+ 6.51	− 52.1	+ 6.38	+13
7	.92	.94	.02	.00	.97		− 11	.86	5.75	5.61	39.3	5.58	+03
6	.66	.84	.90	.00	.85		− 13	.72	5.00	4.86	29.2	4.78	+08
− 4	.52	.58	.60	.62	.58		− 11	.47	+ 3.14	+ 3.00	12.0	+ 3.19	−19
0	.56	.58	.62	.70	.61			.61		− 0.14			−14
+ 4	.60	.58	.64	.64	.61		+ 11	.72	− 3.11	3.25	13.0	− 3.19	−06
6	.96	.10	.06	.08	.05		+ 16	.21	4.60	4.74	28.4	4.78	+04
7	.74	.76	.82	.90	.81		+ 18	.99	5.38	5.52	38.6	5.58	+06
+ 8	.62	.62	.71	.80	.69	− 12	+ 21	.78	− 6.17	− 6.31	− 50.5	− 6.38	+07
									−19.26		−263.0		
									+20.54	15m excess	− 0.797		
									+ 1.28	24h	− 7.65		
									+ 0.14	A	+238.1		
											61.6	V	

REDUCTION FOR COOLING.

I.	Interval observed.	Correction for cooling.	Interval corrected.	Interval from mean.	Product.	Computed.	Δ
	s.	s.	s.	s.	s.	s.	
− 8	+ 6.65	+ 0.20	+ 6.85	+ 6.83	− 54.6	+ 6.78	+ 5
7	5.75	.20	5.95	5.93	41.5	5.94	− 1
6	5 00	.19	5.19	5.17	31.0	5.09	+ 8
− 4	+ 3.14	+ 0.15	+ 3.29	+ 3.27	13.1	+ 3.39	− 12
0				− 0.02			− 2
+ 4	− 3.11	− 0.26	− 3.37	3.39	13.6	− 3.39	0
6	4.60	.42	5.02	5.04	30.2	5.09	+ 5
7	5.38	.51	5.89	5.91	41.4	5.94	+ 3
+ 8	− 6.17	− 0.61	− 6.78	− 6.80	− 54.4	− 6.78	− 2
	−19.26		−21.06		−279.8		
	+20.54		+21.28		− 0.848		
	+ 1.28	: 400	+ 0.22		+ 2.480		
	+ 0.0320		+ 0.03		+ 1.632		
					156.7		

Face 4.

15m interval.	Chronometer-time.		Arc.	Temperature of the— Air.		Pendulum. P_a	Pendulum. P_c	$1.71A^2$	Sums.		Corrections for— Arc.	Temperature.		Barometer.	Total.
	h.	m.	°	°	°	°	°	s.	°	°	s.	s.	s.	s.	s.
— 8	7	22							+83.9	— 33.7	30.6	+28.1	— 4.5	— 0.2	+0.54
			2.69	54.3	44.0	59.3	45.1	12.4							
7		37							+74.6	— 28.8	18.2	+25.0	— 3.9	— 0.2	.39
			2.01	54.3	42.7	59.3	44.5	6.9							
6		52							65.3	— 23.3	11.3	+21.9	— 3.1	— 0.2	.30
			1.58	58.6	44.4	60.4	45.3	4.3							
5	8	07													
			1.25	59.7	45.4	60.7	45.8	2.7							
4		22							44.2	— 14.4	4.3	+14.8	— 1.9	— 0.1	.17
			1.00	60.5	46.2	60.9	46.2	1.7							
3		37													
			0.85	60.9	46.4	61.0	46.4	1.2							
2		52													
			0.70	61.4	46.6	61.1	46.5	0.8							
— 1	9	07													
			0.58	61.9	46.8	61.2	46.5	0.6							
0		22													
			0.47	62.3	47.0	61.3	46.6	0.4							
+ 1		37													
			0.40	62.4	47.0	61.3	46.7	0.3							
2		52													
			0.35	62.6	47.1	61.4	46.7	0.2							
3	10	07													
			0.30	62.8	47.1	61.4	46.7	0.2							
4		22							45.4	— 13.3	1.1	+15.2	— 1.8	— 0.1	.14
			0.26	63.0	47.2	61.5	46.8	0.1							
5		37													
			0.22	63.4	47.4	61.6	46.9	0.1							
6		52							68.5	— 19.6	1.3	+22.9	— 2.6	— 0.2	.21
			0.18	63.7	47.6	61.9	47.0	0.1							
7	11	07							80.4	— 22.6	1.4	+26.9	— 3.1	— 0.2	.25
			0.15	64.4	48.4	61.8	47.3	0.0							
+ 8		22							+92.2	— 25.3	1.4	+30.9	— 3.4	— 0.2	+0.29
Mean				61.0	46.3										

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd.	Δ
	s.	s.	s.	s.	s.				s.	s.	s.	s.	
— 8	.57	.59	.71	.90	.69	— 12	+ 54	.11	+ 6.00	+ 5.90	— 47.2	+ 5.68	+22
7	.58	.58	.56	.62	.59		+ 39	.98	5.13	5.03	35.2	4.97	+ 6
6	.54	.58	.60	.60	.58		+ 30	.88	4.23	4.13	24.8	4.26	—13
— 4	.08	.10	.08	.12	.10		+ 17	.27	+ 2.84	+ 2.74	11.0	+ 2.84	—10
0	.06	.08	.10	.18	.11			.11		— 0.10			—10
+ 4	.06	.04	.04	.12	.07		— 14	.93	— 2.82	2.92	11.7	— 2.84	— 8
6	.54	.38	.56	.60	.52		— 21	.31	4.20	4.30	25.8	4.26	— 4
7	.12	.12	.12	.14	.12		— 25	.87	4.76	4.86	34.0	4.97	+11
+ 8	.92	.97	.02	.09	.00	— 12	— 29	.59	— 5.48	— 5.58	— 44.6	— 5.68	+10
									—17.26		234.3		
									+18.20	15m excess	— 0.710		
									+ 0.94	24h	— 68.2		
									+ 0.10	A	+238.1		
											69.9 = V		

REDUCTION FOR COOLING.

I.	Interval observed.	Correction for cooling.	Interval corrected.	Interval from mean.	Product.	Computed.	Δ
	s.	s.	s.	s.	s.	s.	
— 8	+ 6.00	+ 0.15	+ 6.15	+ 6.13	— 49.0	+ 5.98	+ 15
7	5.13	.15	5.28	5.26	36.8	5.23	+ 3
6	4.23	.14	4.37	4.35	26.1	4.48	— 13
— 4	+ 2.84	+ 0.11	+ 2.95	+ 2.93	11.7	+ 2.99	— 6
0				— 0.02			— 2
+ 4	— 2.82	— 0.19	— 3.01	3.03	12.1	— 2.99	— 4
6	4.20	.31	4.51	4.53	27.2	4.48	— 5
7	4.76	.38	5.14	5.16	36.1	5.23	+ 7
+ 8	— 5.48	— 0.45	— 5.93	— 5.95	— 47.6	— 5.98	+ 3
	—17.26		—18.59		—246.6		
	+18.20		+18.75		— 0.747		
	+ 0.94 : 400		+ 0.16		+ 2.480		
	+ 0.0235		+ 0.02		1.733		
					166.4		

Face 2.

15m interval.	Chronometer-time. h.	Chronometer-time. m.	Arc.	Temperature of the— Air.		Pendulum. P_a	Pendulum. P_c	$1.71A^2$	Sums.	Corrections for— Arc.	Temperature.		Barometer.	Total.
	h.	m.	°	°	°	°	°	s.	° °	s.	s.	s.	s.	s.
− 8	0	37	3.25	55.4	46.8	58.3	46.0	18.1	+75.6 − 30.6	35.2	+25.3	− 4.1	− 0.3	+0.56
7		52	2.00	54.7	43.6	58.2	44.5	6.8	+67.3 − 26.6	17.1	+22.5	− 3.6	− 0.2	.36
6	1	07	1.50	56.0	44.5	58.5	44.9	3.9	59.1 − 21.1	10.3	+19.8	− 2.8	− 0.2	.27
5		22	1.20	59.7	46.6	59.4	45.9	2.5						
4		37	0.95	62.3	48.2	60.0	46.8	1.5	41.2 − 11.9	3.9	+13.8	− 1.6	− 0.1	.16
3		52	0.80	62.7	48.5	60.2	46.9	1.1						
2	2	07	0.69	63.8	49.0	60.4	47.1	0.8						
− 1		22	0.56	64.4	49.2	60.6	47.3	0.5						
0		37	0.45	64.2	48.8	60.5	47.1	0.3						
+ 1		52	0.39	62.2	47.0	60.0	46.2	0.2						
2	3	07	0.34	60.1	45.0	59.5	45.1	0.2						
3		22	0.30	58.2	43.2	59.0	44.3	0.1						
4		37	0.25	56.9	41.9	58.7	43.6	0.1	39.0 − 17.3	0.8	+13.1	− 2.3	− 0.1	.12
5		52	0.21	56.8	41.7	58.7	43.5	0.1						
6	4	07	0.18	56.2	41.1	58.5	43.2	0.1	56.4 − 30.2	1.0	+18.9	− 4.1	− 0.2	.16
7		22	0.15	54.9	40.1	58.2	42.7	0.0	64.9 − 37.0	1.1	+21.7	− 5.0	− 0.2	.18
+ 8		37							+73.1 − 44.3	1.1	+24.5	− 6.0	− 0.2	+0.20
Mean				59.3	45.3									

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd.	Δ
	s.	s.	s.	s.	s.				s.	s.	s.	s.	
− 8	.61	.73	.87	.00	.81	− 12	+ 56	.25	+ 5.70	+ 5.53	− 44.2	+ 5.32	+21
7	.60	.64	.70	.80	.69		+ 36	.05	4.90	4.73	33.1	4.66	+ 7
6	.56	.60	.56	.62	.59		+ 27	.86	4.09	3.92	23.5	3.99	− 7
− 4	.08	.08	.08	.12	.09		+ 16	.25	+ 2.70	+ 2.53	10.1	+ 2.66	−13
0	.90	.96	.98	.94	.95			.95		− 0.17			−17
+ 4	.60	.62	.72	.66	.65		− 12	.53	− 2.58	2.75	11.0	− 2.66	− 9
6	.92	.90	.96	.98	.94		− 16	.78	3.83	4.00	24.0	3.99	− 1
7	.56	.58	.64	(.63)	.60		− 18	.42	4.47	4.64	32.5	4.66	+ 2
+ 8	.14	.12	.28	.31	.21	− 12	− 20	.89	− 4.94	− 5.11	− 40.9	− 5.32	+21
									−15.82		−219.3		
									+17.39	15^m excess	− 0.665		
									+ 1.57	24^h	− 63.8		
									+ 0.17	A	+238.1		
											74.3 = V		

REDUCTION FOR COOLING.

I.	Interval observed.	Correction for cooling.	Interval corrected.	Interval from mean.	Product.	Computed.	Δ
	s.	s.	s.	s.	s.	s.	
− 8	+ 5.70	+ 0.25	+ 5.95	+ 5.92	− 47.2	+ 5.82	+ 10
7	4.90	.25	5.15	5.12	35.8	5.09	+ 3
6	4.09	.24	4.33	4.30	25.8	4.35	− 6
− 4	+ 2.70	+ 0.19	+ 2.89	+ 2.86	11.4	+ 2.91	− 5
0				− 0.03			− 3
+ 4	− 2.58	− 0.31	− 2.89	2.92	11.7	− 2.91	− 1
6	3.83	.52	4.35	4.38	25.3	4.36	− 2
7	4.47	.63	5.10	5.13	35.9	5.09	− 4
+ 8	− 4.94	− 0.75	− 5.69	− 5.72	− 45.8	− 5.82	+ 10
	−15.82		−18.03		−239.9		
	+17.39		+18.32		− 0.727		
	+ 1.57	: 400	+ 0.29		+ 2.480		
	+ 0.0392		+ 0.03		+ 1.753		
					168.3		

Face 2.

15^m interval.	Chronometer-time.	Arc.	Temperature of the— Air.		Pendulum. P_a	P_c	$1.71A^2$	Sums.		Corrections for— Arc.	Temperature.		Barometer.	Total.
	h. m.	°	°	°	°	°	s.	°	°	s.	s.	s.	s.	s.
−12	5 13.7							+38.9	−128.6	13.7	+13.0	−17.4	− 0.8	+0.05
		2.04	56.8	43.5	53.6	40.9	6.8							
11	28.7							+35.3	−119.5	6.9	+11.8	−16.1	− 0.7	.02
		1.24	62.5	43.2	55.0	40.8	2.6							
10	43.7							30.3	−110.3	4.3	+10.2	−14.9	− 0.6	+ .01
		0.86	61.7	46.0	54.8	42.1	1.3							
9	58.7													
		0.71	61.2	45.6	54.7	41.0	0.8							
8	6 13.7							20.8	− 93.4	2.2	+ 7.0	−12.6	− 0.5	− .04
		0.60	60.0	44.6	54.4	41.5	0.6							
7	28.7													
		0.52	57.6	42.6	53.8	40.5	0.4							
6	43.7													
		0.46	55.0	40.4	53.1	39.4	0.3							
5	58.7													
		0.41	52.7	38.5	52.6	38.4	0.3							
4	7 13.7							6.9	− 53.2	0.6	+ 2.3	− 7.2	− 0.3	.05
		0.35	50.8	36.8	52.1	37.6	0.2							
3	28.7													
		0.31	49.9	35.6	51.8	37.0	0.2							
2	43.7													
		0.27	49.0	34.4	51.6	36.4	0.1							
− 1	58.7													
		0.23	48.1	33.2	51.4	35.8	0.1							
0	8 13.7													
		0.20	47.5	32.4	51.3	35.4	0.1							
+ 1	28.7													
		0.18	47.4	32.3	51.2	35.3	0.1							
2	43.7													
		0.16	47.4	32.2	51.2	35.2	0.0							
3	58.7													
		0.14	47.3	32.1	51.2	35.2	0.0							
4	9 13.7							4.9	− 58.9	0.2	+ 1.6	− 8.0	− 0.3	.06
		0.12	47.8	32.5	51.3	35.4	0.0							
5	28.7													
		0.11	49.2	33.8	51.7	36.1	0.0							
6	43.7													
		0.10	50.7	35.3	52.1	37.8	0.0							
7	58.7													
		0.08	52.0	36.6	52.4	37.4	0.0							
8	10 13.7							12.4	−112.2	0.2	+ 4.2	−15.1	− 0.5	.11
		0.07	52.8	38.5	52.6	38.4	0.0							
9	28.7													
		0.06	52.5	41.4	52.5	39.8	0.0							
10	43.7							17.5	−134.0	0.2	+ 5.9	−18.1	− 0.6	.13
		0.06	54.2	43.9	52.9	41.1	0.0							
11	58.7							20.4	−142.9	0.2	+ 6.8	−19.3	− 0.7	.13
		0.05	55.0	44.0	53.1	41.4	0.0							
+12	11 13.7							+23.5	−151.5	0.2	+ 7.9	−20.4	− 0.8	−0.13
Mean			52.5	38.3										

Face 2.

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd	Δ
	s.	s.	s.	s.	s.				s.	s.	s.	s.	
−12	.86	.98	.05	.15	.01	− 12	+ 5	.94	+ 8.46	+ 8.17	− 98.0	+ 7.99	+18
11	.68	.62	.64	.72	.66		+ 2	.68	7.82	7.53	82.8	7.33	+20
10	.58	.56	.56	.60	.57		+ 1	.58	6.92	6.63	66.3	6.66	− 3
8	.96	.02	.02	.06	.01		− 4	.97	5.53	5.24	41.9	5.33	− 9
− 4	.78	.60	.64	.72	.68		− 5	.63	+ 2.87	+ 2.58	10.3	+ 2.66	− 8
0	.48	.46	.50	.56	.50			.50		− 0.29			−29
+ 4	.06	.00	.00	.98	.01		+ 6	.07	− 2.57	2.86	11.4	− 2.66	−20
8	.58	.52	.50	.50	.52		+ 11	.63	5.13	5.42	43.4	5.33	− 9
10	.62	.66	.68	.68	.66		+ 13	.79	6.29	6.58	65.8	6.66	+ 8
11	.18	.12	.20	.36	.21		+ 13	.34	6.84	7.13	78.4	7.33	+20
+12	.99	.97	.08	.14	.04	− 12	+ 13	.05	− 7.55	− 7.84	− 94.1	− 7.99	+15
90									−28.38		−592.4		
ΣI² = 890									+31.60	15m excess.	− 0.666		
									+ 3.22	24h	− 63.9	74.2 = V	
									+ 0.29	A	+238.1		

REDUCTION FOR COOLING.

I.	Interval observed.	Correction for cooling.	Interval corrected.	Interval from mean.	Product.	Computed.	Δ
	s.	s.	s.	s.	s.	s.	
− 12	+ 8.46	+ 0.43	+ 8.89	+ 8.84	− 106.1	+ 8.84	− 0
11	7.82	.43	8.25	8.20	90.2	8.11	+ 9
10	6.92	.42	7.34	7.29	72.9	7.37	− 8
8	5.53	.38	5.91	5.86	46.9	5.90	− 4
− 4	+ 2.87	+ 0.23	+ 3.10	+ 3.05	12.2	+ 2.95	+ 10
0				− 0.05			− 5
+ 4	− 2.57	− 0.33	− 2.90	2.95	11.8	− 2.95	+ 0
8	5.13	0.76	5.89	5.94	47.5	5.90	− 4
10	6.29	1.01	7.30	7.35	73.5	7.37	+ 2
11	6.84	1.15	7.99	8.04	88.4	8.11	+ 7
+ 12	− 7.55	− 1.29	− 8.84	− 8.89	− 106.7	− 8.84	− 5
	−28.38		−32.92		−656.2 : 890		
	+31.60		+33.49		− 0.737		
	+ 3.22	: 1030	+ 0.57		+ 2.680		
	+ 0.0298		+ 0.05		+ 1.743		
					167.3		

Face 4.

15m interval.	Chronometer-time.	Arc.	Temperature of the— Air.		Pendulum. P_a	P_c	$1.71A^2$	Sums.		Corrections for— Arc.	Temperature.		Barometer.	Total.
	h. m.	°	°	°	°	°	s.	°	°	s.	s.	s.	s.	s.
−12	0 51.8							− 4.8	−251.6	36.5	− 1.6	−34.0	− 0.6	+0.00
		2.94	48.4	32.0	49.9	30.9	14.8							
11	1 06.8							− 4.7	−232.5	21.7	− 1.6	−31.4	− 0.5	− .12
		2.14	48.2	31.5	49.9	30.7	7.8							
10	21.8							− 4.6	−213.2	13.9	− 1.5	−28.8	− 0.5	.17
		1.67	47.6	30.2	49.7	30.0	4.8							
9	36.8													
		1.32	46.6	28.9	49.5	29.4	3.0							
8	51.8							− 3.8	−172.6	6.1	− 1.3	−23.3	− 0.4	.19
		1.05	46.1	27.9	49.3	28.9	1.9							
7	2 06.8													
		0.88	46.4	27.7	49.4	28.8	1.3							
6	21.8													
		0.75	46.8	27.4	49.5	28.7	1.0							
5	36.8													
		0.62	47.1	27.2	49.6	28.6	0.7							
4	51.8							− 1.6	− 87.6	1.2	− 0.5	−11.8	− 0.2	− .11
		0.51	47.3	26.9	49.6	28.4	0.5							
3	3 06.8													
		0.44	47.2	26.4	49.6	28.2	0.3							
2	21.8													
		0.38	47.1	26.0	49.6	28.0	0.2							
− 1	36.8													
		0.32	47.0	25.6	49.6	27.8	0.2							
0	51.8													
		0.28	47.7	25.9	49.7	27.9	0.1							
+ 1	4 06.8													
		0.25	48.6	27.1	50.0	27.5	0.1							
2	21.8													
		0.22	51.7	28.5	50.7	29.2	0.1							
3	36.8													
		0.19	53.5	29.8	51.2	29.8	0.1							
4	51.8							+ 1.6	− 85.6	0.4	+ 0.5	−11.6	− 0.1	− .11
		0.16	54.5	30.5	51.4	30.2	0.0							
5	5 06.8													
		0.14	53.5	29.9	51.2	29.9	0.0							
6	21.8													
		0.13	52.5	29.1	50.9	29.5	0.0							
7	36.8													
		0.11	51.5	28.5	50.7	29.2	0.0							
8	51.8							+ 5.8	−166.8	0.5	+ 1.9	−22.5	− 0.3	.20
		0.10	52.4	29.7	50.9	29.8	0.0							
9	6 06.8													
		0.09	56.9	34.5	52.1	32.2	0.0							
10	21.8							+ 8.8	−204.8	0.5	+ 2.9	−27.7	− 0.4	.25
		0.08	60.2	38.1	52.8	34.0	0.0							
11	36.8							+11.6	−220.8	0.5	+ 3.9	−29.8	− 0.4	.26
		0.07	60.3	38.4	52.9	34.1	0.0							
+12	51.8							+14.5	−236.7	0.5	+ 4.9	−32.0	− 0.4	−0.27
Mean			50.4	29.9										

Face 4.

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd.	Δ
	s.	*s.*	*s.*	*s.*	*s.*				*s.*	*s.*	*s.*	*s.*	
—12	.59	.66	.82	.99	.77	— 12	0	.65	+ 8.94	+ 8.74	—104.9	+ 8.41	+33
11	.52	.60	.60	.64	.59		— 12	.47	8.12	7.92	87.1	7.71	+21
10	.60	.60	.62	.66	.62		— 17	.45	7.14	6.94	69.4	7.01	— 7
8	.10	.06	.08	.16	.10		— 19	.91	5.68	5.48	43.8	5.61	—13
— 4	.96	.00	.00	.00	.99		— 11	.88	+ 2.71	+ 2.51	10.0	+ 2.80	—29
0	.60	.60	.54	.62	.59			.59		— 0.20			—20
+ 4	.20	.16	.26	.22	.21		+ 11	.32	— 2.73	2.93	11.7	— 2.80	—13
8	.90	.72	.90	.92	.86		+ 20	.06	5.47	5.67	45.4	5.61	— 6
10	.14	.10	.14	.08	.11		+ 25	.36	6.77	6.97	69.7	7.01	+ 4
11	.70	.58	.66	.60	.63		+ 26	.89	7.30	7.50	82.5	7.71	+21
+12	.57	.49	.58	.55	.55	— 12	+ 27	.70	— 8.11	— 8.31	— 99.7	— 8.41	+10
									—30.38		—624.2		
									+32.59	15^m excess	— 0.701		
									+ 2.21	24^h	— 67.3		
									+ 0.20	A	+238.1		
											70.8 = V		

REDUCTION FOR COOLING.

I.	Interval observed.	Correction for cooling.	Interval corrected.	Interval from mean.	Product.	Computed.	Δ
	s.	*s.*	*s.*	*s.*	*s.*	*s.*	
— 12	+ 8.94	+ 0.30	+ 9.24	+ 9.20	— 110.4	+ 9.01	+ 19
11	8.12	.29	8.41	8.37	92.1	8.26	+ 11
10	7.14	.29	7.43	7.39	73.9	7.51	— 12
8	5.68	.26	5.94	5.90	47.2	6.01	— 11
— 4	+ 2.71	+ 0.16	+ 2.87	+ 2.83	11.3	+ 3.00	— 17
0				— 0.04			— 4
+ 4	— 2.73	— 0.23	— 2.96	3.00	12.0	— 3.00	0
8	5.47	.52	5.99	6.03	48.2	6.01	— 2
10	6.77	.70	7.47	7.51	75.1	7.51	0
11	7.30	.79	8.09	8.13	89.4	8.26	+ 13
+ 12	— 8.11	— 0.89	— 9.00	— 9.04	— 108.5	— 9.01	— 3
	—30.38		—33.51		—668.1 : 890		
	+32.59		+33.89		— 0.751		
	+ 2.21 : 1080		+ 0.38		+ 2.480		
	+ 0.0205		+ 0.04		+ 1.729		
					166.0		

Face 1.

15^m interval.	Chronometer-time.	Temperature of the— Arc.	Air.		Pendulum. P_a	P_c	$1.71A^2$	Sums.		Corrections for— Arc.	Temperature.		Barometer.	Total.
	h. m.	°	°	°	°	°	*s.*	°	°	*s.*	*s.*	*s.*	*s.*	*s.*
−12	5 36.7							+122.0	− 68.1	38.1	+40.9	− 9.2	− 0.0	+0.70
		3.09	55.8	42.8	59.5	43.6	16.3							
11	51.7							+112.5	− 61.7	21.8	+37.7	− 8.3	− 0.0	.51
		2.20	55.1	43.9	59.3	44.1	8.3							
10	6 06.7							+103.2	− 55.8	13.5	+34.6	− 7.5	− 0.0	.41
		1.64	56.1	45.0	59.5	41.6	4.6							
9	21.7													
		1.32	57.1	44.8	59.8	44.6	3.0							
8	36.7							+ 83.9	− 45.0	5.9	+28.1	− 6.1	− 0.0	.23
		1.06	58.2	44.9	60.1	44.6	1.9							
7	51.7													
		0.90	59.3	45.3	60.3	41.8	1.4							
6	7 06.7													
		0.74	60.5	45.6	60.6	44.9	0.9							
5	21.7													
		0.59	61.6	46.0	60.9	45.1	0.6							
4	36.7							+ 42.0	− 21.6	1.1	+14.1	− 3.3	− 0.0	.12
		0.47	61.9	45.7	61.0	45.0	0.4							
3	51.7													
		0.41	60.6	44.3	60.7	44.3	0.3							
2	8 06.7													
		0.35	59.1	42.7	60.3	43.5	0.2							
− 1	21.7													
		0.30	57.8	41.4	60.0	42.8	0.2							
0	36.7													
		0.25	57.3	40.6	59.8	42.5	0.1							
+ 1	51.7													
		0.22	58.6	41.4	60.2	42.8	0.1							
2	9 06.7													
		0.18	60.0	42.1	60.5	43.2	0.1							
3	21.7													
		0.15	61.2	42.8	60.8	43.6	0.0							
4	36.7							+ 41.3	− 27.9	0.3	+13.8	− 3.8	− 0.0	.10
		0.13	62.1	43.3	61.1	43.8	0.0							
5	51.7													
		0.12	62.2	43.3	61.1	43.8	0.0							
6	10 06.7													
		0.11	62.3	43.2	61.1	43.7	0.0							
7	21.7													
		0.10	62.4	43.2	61.1	43.7	0.0							
8	36.7							+ 85.7	− 52.9	0.3	+28.7	− 7.1	− 0.1	.22
		0.10	63.2	44.0	61.3	43.6	0.0							
9	51.7													
		0.09	65.7	46.2	61.9	45.3	0.0							
10	11 06.7							+108.9	− 64.0	0.3	+36.5	− 8.6	− 0.1	.28
		0.07	68.2	49.1	62.6	46.7	0.0							
11	21.7							+121.5	− 67.3	0.3	+40.7	− 9.1	− 0.1	.32
		0.05	70.0	51.5	63.0	47.9	0.0							
+12	36.7							+134.5	− 69.4	0.3	+45.1	− 9.4	− 0.1	+0.36
Mean			60.7	44.3										

Face I.

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd.	Δ
	s.	*s.*	*s.*	*s.*	*s.*				*s.*	*s.*	*s.*	*s.*	
—12	.11	.19	.28	.48	.26	— 12	+ 70	.84	+ 9.71	+ 9.47	—113.6	+ 9.20	+27
11	.16	.18	.22	.32	.22		+ 51	.73	8.82	8.57	94.3	8.44	+13
10	.20	.14	.18	.24	.19		+ 41	.60	7.95	7.70	77.0	7.67	+ 3
8	.98	.96	.06	.12	.03		+ 28	.31	6.24	5.99	47.9	6.14	—15
— 4	.24	.24	.36	.42	.31		+ 12	.43	+ 3.12	+ 2.87	11.5	+ 3.07	—20
0	.56	.58	.48	.58	.55			.55		— 0.25			—25
+ 4	.62	.60	.58	.60	.60		— 10	.50	— 2.95	3.20	12.8	— 3.07	—13
8	.62	.62	.66	.66	.64		— 22	.42	5.87	6.12	49.0	6.14	+ 2
10	.18	.16	.24	.22	.20		— 28	.92	7.37	7.62	76.2	7.67	+ 5
11	.08	.00	.98	.96	.01		— 32	.69	8.14	8.39	92.3	8.41	+ 5
+12	.61	.65	.87	.99	.78	— 12	— 36	.30	— 8.75	— 9.00	—108.0	— 9.20	+20
									—33.08		—682.6		
									+35.84	15^m excess	— 0.767		
									+ 2.76	24^h	— 77.6		
									+ 0.25	A	+238.1		
											64.5 = V		

REDUCTION FOR COOLING.

I.	Interval observed.	Correction for cooling.	Interval corrected.	Interval from mean.	Product.	Computed.	Δ
	s.	*s.*	*s.*	*s.*	*s.*	*s.*	
— 12	+ 9.71	+ 0.37	+10.08	+10.04	—120.5	+ 9.96	+ 8
11	8.82	.37	9.19	9.15	100.6	9.13	+ 2
10	7.95	.36	8.31	8.27	82.7	8.30	— 3
8	6.24	.33	6.57	6.53	52.2	6.64	— 11
— 4	+ 3.12	+ 0.20	+ 3.32	+ 3.28	13.1	+ 3.32	— 4
0				— 0.04			— 4
+ 4	— 2.95	— 0.29	— 3.24	3.28	13.1	— 3.32	+ 4
8	5.87	.66	6.53	6.57	52.6	6.64	+ 7
10	7.37	.87	8.24	8.28	82.8	8.30	+ 2
11	8.14	0.99	9.13	9.27	102.0	9.13	— 14
+ 12	— 8.75	— 1.11	— 9.86	— 9.90	—118.8	— 9.96	+ 6
	—33.08		—37.00		—738.4		
	+35.84		+37.47		— 0.830		
	+ 2.76 : 1080		+ 0.47		+ 2.480		
	+ 0.0256		+ 0.04		+ 1.650		
					158.4		

Face 3.

15m interval.	Chronometer-time.	Arc.	Temperature of the— Air.		Pendulum. P_a	P_c	$1.71A^2$	Sums.		Corrections for— Arc.	Temperature.		Barometer.	Total.
	h. m.	°	°	°	°	°	s.	°	°	s.	s.	s.	s.	s.
−12	1 51.6							+143.0	−17.8	36.6	+47.9	−2.4	−0.4	+0.82
		2.97	62.5	49.3	61.6	48.2	15.1							
11	2 06.6							+131.4	−16.0	21.5	+44.0	−2.1	−0.4	.63
		2.10	61.4	49.4	61.3	48.3	7.5							
10	21.6							+120.1	−14.3	14.0	+40.1	−1.9	−0.3	.52
		1.65	60.5	49.0	61.2	48.1	4.6							
9	36.6													
		1.31	59.7	47.8	60.9	47.5	3.0							
8	51.6							+98.0	−9.9	6.4	+32.8	−1.3	−0.2	.38
		1.05	60.0	47.7	61.0	47.4	1.9							
7	3 06.6													
		0.90	63.0	49.4	61.7	48.3	1.4							
6	21.6													
		0.76	65.5	51.3	62.3	49.2	1.0							
5	36.6													
		0.62	67.8	52.9	62.9	50.0	0.7							
4	51.6							+50.1	−4.8	1.4	+16.8	−0.6	−0.1	.18
		0.51	69.0	53.4	63.2	50.3	0.5							
3	4 06.6													
		0.45	67.0	51.4	62.7	49.3	0.4							
2	21.6													
		0.39	65.2	49.3	62.3	48.3	0.3							
−1	36.6													
		0.34	63.5	47.4	61.9	47.3	0.2							
0	51.6													
		0.30	62.2	46.1	61.5	46.7	0.2							
+1	5 06.6													
		0.27	61.7	46.1	61.4	46.6	0.1							
2	21.6													
		0.23	61.3	45.9	61.3	46.5	0.1							
3	36.6													
		0.21	60.9	45.8	61.2	46.5	0.1							
4	51.6							+45.4	−13.7	0.5	+15.2	−1.8	−0.1	.16
		0.18	60.4	45.5	61.1	46.4	0.1							
5	6 06.6													
		0.16	59.7	45.1	60.9	46.2	0.0							
6	21.6													
		0.14	59.0	44.6	60.7	45.9	0.0							
7	36.6													
		0.12	58.3	44.2	60.6	45.7	0.0							
8	51.6							+88.7	−29.5	0.6	+29.7	−4.0	−0.1	.29
		0.10	57.4	43.6	60.3	45.4	0.0							
9	7 06.6													
		0.09	55.8	42.6	59.9	44.9	0.0							
10	21.6							+108.9	−39.2	0.6	+36.5	−5.3	−0.1	.32
		0.07	54.6	42.0	59.6	44.6	0.0							
11	36.6							+118.5	−44.6	0.6	+39.7	−6.0	−0.2	.36
		0.06	53.8	42.0	59.4	44.6	0.0							
+12	51.6							+127.9	−50.0	0.6	+42.8	−6.8	−0.2	+0.36
Mean			61.3	47.2										

Face 3.

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd	Δ
	s.	*s.*	*s.*	*s.*	*s.*				*s.*	*s.*	*s.*	*s.*	
−12	.26	.46	.63	.71	.51	− 12	+ 82	.21	+ 9.81	+ 9.63	−115.6	+ 9.36	+27
11	.58	.52	.52	.56	.55	− 3	+ 63	.15	8.87	8.69	95.6	8.58	+11
10	.50	.50	.48	.60	.52		+ 52	.04	7.98	7.80	78.0	7.80	0
8	.26	.36	.46	.46	.38		+ 38	.76	6.26	6.08	48.6	6.24	− 16
− 4	.62	.72	.68	.76	.70		+ 18	.88	+ 3.14	+ 2.96	11.8	+ 3.12	−16
0	.00	.92	.04	.14	.02			.02		− 0.18			−18
+ 4	.12	.26	.28	.24	.22		− 16	.06	− 3.04	3.22	12.9	− 3.12	−10
8	.30	.44	.44	.50	.42		− 29	.13	6.11	6.29	50.3	6.24	− 5
10	.90	.00	.02	.02	.98		− 32	.66	7.64	7.82	78.2	7.80	− 2
11	.60	.54	.60	.66	.60		− 36	.24	8.22	8.40	92.4	8.58	+18
+12	.49	.45	.61	.63	.55	− 12	− 36	.07	− 9.05	− 9.23	−110.8	− 9.36	+13
									−34.06		−694.2		
									+36.06	15m excess	− 0.780		
									+ 2.00	24h	− 74.9		
									+ 0.18	A	+238.1		
											63.2 = V		

REDUCTION FOR COOLING.

I.	Interval observed.	Correction for cooling.	Interval corrected.	Interval from mean.	Product.	Computed.	Δ
	s.	*s.*	*s.*	*s.*	*s.*	*s.*	
− 12	+ 9.81	+ 0.27	+10.08	+10.05	−120.6	+ 9.89	+ 16
11	8.87	.26	9.13	9.10	100.1	9.06	+ 4
10	7.98	.26	8.24	8.21	82.1	8.24	− 3
8	6.26	.24	6.50	6.47	51.8	6.59	− 8
− 4	+ 3.14	+ 0.15	+ 3.29	+ 3.26	13.0	+ 3.30	− 4
0				− 0.03			− 3
+ 4	− 3.04	− 0.21	− 3.25	3.28	13.1	− 3.30	+ 2
8	6.11	.47	6.58	6.61	52.9	6.59	+ 2
10	7.64	.63	8.27	8.30	83.0	8.24	+ 6
11	8.22	.71	8.93	8.96	98.6	9.06	− 10
+ 12	− 9.05	− 0.80	− 9.85	− 9.88	−118.6	− 9.89	+ 1
	−34.06		−36.88		−733.8		
	+36.06		+37.24		− 0.824		
	+ 2.00	: 1080	+ 0.36		+ 2.480		
	+ 0.0185		+ 0.03		+ 1.656		
					159.0		

RECAPITULATION OF RESULTS.

The following table contains the recapitulation of the results of the preceding observations:

Date.	Number of face.	ODD FACES. Uncorrected.	ODD FACES. Corrected for cooling.	Date.	Number of face.	EVEN FACES. Uncorrected.	EVEN FACES. Corrected for cooling.
1872.		V $\Delta^{(1)}$	V $\Delta^{(2)}$	1872.		V $\Delta^{(1)}$	V $\Delta^{(2)}$
January 5.....	1	57.7 + 4.0	(57.7) + 0.1	January 6.....	2	70.0 + 1.4	64.8 + 1.2
	3	60.3 + 1.4	55.9 + 1.9		4	66.2 + 5.2	62.7 + 3.3
9.....	3	63.6 — 1.9	57.3 + 0.5	8.....	4	75.0 — 3.6	(68.5) — 2.5
	1	60.1 + 1.6	57.3 + 0.5		2	71.1 + 0.3	63.7 + 2.3
10.....	3	62.4 — 0.7	60.1 — 2.3	11.....	4	69.9 + 1.5	66.4 — 0.4
	1	61.6 + 0.1	56.7 + 1.1		2	74.3 — 2.9	68.3 — 2.3
13.....	1	64.5 — 2.8	58.4 — 0.6	12.....	2	74.2 — 2.8	67.3 — 1.3
	3	63.2 — 1.5	59.0 — 1.2		4	70.8 + 0.6	66.0 0.0
		61.7 ± 0.6	57.8 ± 0.3			71.4 ± 0.7	66.0 ± 0.5

Final number of vibrations in a mean solar day .... 86566.6 ± 0.5
And corrected for the effect of cooling .... 86561.9 ± 0.3

PENDULUM-EXPERIMENTS MADE AT POLARIS HOUSE.

EXPLANATORY REMARKS AND RECORD OF OBSERVATIONS.

The pendulum was swung at Polaris House in the same way as at the Polaris Bay observatory, the period of observation in both places comprising eight days. Owing to our unfavorable situation after the disaster had occurred, we were not able to build a proper observatory, but had to conduct the experiments under consideration in a hut, containing but one apartment, which was our bedroom, parlor, study, and kitchen for more than seven months. As this room, if it can be termed such, was occupied by fourteen persons, we had to select for our observations the hours while the men were asleep, as the utmost quietness is required in conducting experiments of this kind. For this reason, we were unable to obtain two sets of observations, as we did at Polaris Bay, and we hope that the dreary circumstances ought to excuse this neglect.

The pendulum was mounted in the same way as described in the course of the Polaris Bay observations, except that the steel bars used there to steady the box were supplied by wooden braces. A square hole was cut in the floor of our hut, near its northern wall, into which a piece of strong timber was put, cemented to the soil (a brown syenite) by means of water, which froze very readily, and the box containing the instrument was placed on the pier thus obtained. The pendulum did not swing in the meridian; the vibrations being performed in a direction about northeast and southwest. The swinging knife-edge was about eleven feet above the mean sea-level, and the telescope, by means of which the transits were observed, was screwed to a carpenter's tool-chest, three feet to the right of the pendulum. Each series was commenced with a R. vibration, as had been done at Polaris Bay. The chronometer used was compared before and after the respective sets were taken with three other box-chronometers, as is shown by the record of comparisons. Mr. Bryan occupied the telescope; the writer, the chronometer.

Set 1, face 1, March 5, 1873.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
6 03 00.0	6 04 51.0	6 06 42.0	6 08 32.5	At $6^{h}\ 00^{m}$, arc = { $2^{\circ}.54$
10.1	05 01.1	52.0	42.6	$2^{\circ}.58$
20.1	11.1	07 01.9	52.8	Temperature = { $59^{\circ}.4$
30.1	21.0	11.9	09 02.7	$59^{\circ}.0$
40.1	31.0	21.9	12.6	$47^{\circ}.8$
50.1	41.0	31.8	22.6	Barometer = 29.640
04 00.1	51.0	41.7	32.6	
10.1	06 01.0	51.7	42.6	
20.1	11.0	08 01.7	52.6	
30.1	21.0	11.7	10 02.6	
40.1	31.0	21.8	12.6	
6 03 50.09	6 05 41.02	6 07 31.83	6 09 22.62	
6 18 01.0	6 18 52.0	6 19 42.8	6 20 33.6	At $6^{h}\ 25^{m}$, arc = { $1^{\circ}.53$
11.0	19 02.0	52.8	43.6	$1^{\circ}.59$
21.0	12.0	20 02.8	53.6	Temperature = { $59^{\circ}.8$
31.0	21.9	12.6	21 03.6	$59^{\circ}.0$
41.0	31.9	22.7	13.6	$49^{\circ}.0$
				Barometer = 29.629
6 18 21.00	6 19 11.96	6 20 02.74	6 20 53.6	
6 33 01.5	6 33 52.6	6 34 43.5	6 35 34.6	At $6^{h}\ 45^{m}$, arc = { $1^{\circ}.00$
11.5	34 02.6	53.6	44.6	$1^{\circ}.05$
21.6	12.6	35 03.6	54.6	Temperature = { $60^{\circ}.0$
31.6	22.6	13.6	36 04.6	$59^{\circ}.0$
41.6	32.5	23.6	14.5	$49^{\circ}.0$
				Barometer = 29.618
6 33 21.56	6 34 12.58	6 35 03.58	6 35 54.58	
7 06 00.5	7 06 51.5	7 07 42.5	7 08 33.4	At $7^{h}\ 10^{m}$, arc = { $0^{\circ}.70$
10.6	07 01.5	52.5	43.4	$0^{\circ}.78$
20.6	11.5	08 02.4	53.4	Temperature = { $60^{\circ}.0$
30.6	21.5	12.4	09 03.4	$58^{\circ}.8$
40.5	31.5	22.5	13.4	$49^{\circ}.3$
				Barometer = 29.527
7 06 20.56	7 07 11.5	7 08 02.46	7 08 53.4	
8 03 01.1	8 03 52.0	8 04 43.0	8 05 33.9	At $8^{h}\ 07^{m}$, arc = { $0^{\circ}.31$
11.1	04 02.1	53.0	43.9	$0^{\circ}.37$
21.1	12.0	05 03.1	53.8	Temperature = { $59^{\circ}.1$
31.1	22.0	13.1	06 03.7	$57^{\circ}.2$
41.1	32.0	23.0	13.7	$48^{\circ}.0$
				Barometer = 29.523
8 03 21.1	8 04 12.02	8 05 03.04	8 05 53.8	

Set 1, face 1, March 5, 1873.

R.			L.			R.			L.			
h.	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*	*s.*	
9	03	39.1	9	04	30.1	9	05	21.0	9	06	11.5	At $9^h\ 07^m$, arc = { 0°.13; 0°.18 }
		49.1			40.1			31.0			21.5	
		59.1			50.0			41.0			31.6	
	04	09.2		05	00.1			51.0			41.7	Temperature = { 59°.3; 59°.0; 56°.1 }
		19.1			10.0		06	01.0			51.8	
												Barometer = 29.522
9	03	59.12	9	04	50.06	9	05	41.0	9	06	31.62	
9	33	08.5	9	33	59.0	9	34	50.0	9	35	40.7	At $9^h\ 37^m$, arc = { 0°.07; 0°.11 }
		18.4		34	09.0		35	00.0			50.7	
		28.4			19.0			10.0		36	00.7	
		38.3			29.0			20.1			10.6	Temperature = { 60°.4; 60°.4; 51°.5 }
		48.3			39.0			30.1			20.6	
												Barometer = 29.518
9	33	28.38	9	34	19.0	9	35	10.04	9	36	00.66	
9	49	00.5	9	49	51.4	9	50	42.4	9	51	33.4	At $9^h\ 52^m$, arc = { 0°.05; 0°.10 }
		10.5		50	01.3			52.4			43.3	
		20.5			11.3		51	02.5			53.3	
		30.5			21.4			12.5		52	03.3	Temperature = { 60°.3; 60°.3; 52°.5 }
		40.5			31.3			22.4			13.2	
												Barometer = 29.515
9	49	20.5	9	50	11.34	9	51	02.44	9	51	53.3	
10	03	01.3	10	04	51.7	10	06	42.6	10	08	33.4	At $10^h\ 12^m$, arc = { 0°.04; 0°.10 }
		11.3		05	01.7			52.7			43.4	
		21.3			11.7		07	02.8			53.4	
		31.3			21.7			12.8		09	03.4	Temperature = { 60°.0; 59°.7; 53°.0 }
		41.2			31.7			22.8			13.4	
		51.2			41.7			32.8			23.3	Barometer = 29.511
	04	01.3			51.6			42.8			33.4	
		11.3		06	01.5			52.8			43.3	
		21.3			11.6		08	02.8			53.4	
		31.3			21.6			12.7		10	03.4	
		41.2			31.5			22.7			(13.4)	
10	03	51.27	10	05	41.64	10	07	32.75	10	09	23.38	

Set 2, face 2, March 6, 1873.

R.	L.	R.	L.	
h. m. s.	h. m. s.	m. s.	h. m. s.	
5 03 00.6	5 04 51.4	5 06 42.1	5 08 33.2	At 5^{h} 11^{m}, arc = { 2°.49
10.5	05 01.4	52.0	43.2	2°.50
20.5	11.4	07 02.0	53.2	Temperature = { 55°.0
30.5	21.3	12.0	09 03.2	55°.0
40.5	31.3	22.1	13.2	46°.1
50.5	41.2	32.2	23.2	Barometer = 29.998
04 00.5	51.2	42.2	33.0	
10.6	06 01.2	52.2	43.1	
20.6	11.2	08 02.2	52.9	
30.6	21.2	12.2	10 03.0	
40.5	31.1	22.2	13.1	
5 03 50.54	5 05 41.26	5 07 32.13	5 09 23.12	
5 19 01.2	5 19 52.0	5 20 42.6	5 21 33.6	At 5^{h} 23^{m}, arc = { 2°.00
11.2	20 02.1	52.7	43.7	2°.03
21.1	12.0	21 02.7	53.7	Temperature = { 55°.8
31.1	22.0	12.7	22 03.7	55°.8
41.0	31.9	22.7	13.7	47°.3
				Barometer = 29.986
5 19 21.12	5 20 12.0	5 21 02.68	5 21 53.68	
5 32 59.9	5 34 00.9	5 34 51.7	. . . . .	At 5^{h} 36^{m}, arc = { 1°.63
33 09.9	10.8	35 01.6	. .	1°.67
19.9	20.5	11.7	. .	Temperature = { 56°.8
29.9	30.9	21.7	. .	56°.8
39.9	40.8	31.7	. .	48°.4
				Barometer = 29.959
5 33 19.9	5 34 20.78	5 35 11.68	. . . . .	
6 03 01.1	6 03 52.0	6 04 42.9	6 05 33.8	At 6^{h} 07^{m}, arc = { 1°.0
11.2	04 02.1	52.9	43.8	1°.4
21.2	12.0	05 02.8	53.8	Temperature = { 59°.0
31.2	22.0	12.8	06 03.8	59°.0
41.2	31.9	22.8	13.7	51°.2
				Barometer = 29.946
6 03 21.18	6 04 12.00	6 05 02.84	6 05 53.78	
7 03 01.2	7 03 52.2	7 04 43.0	7 05 33.9	At 7^{h} 07^{m}, arc = { 0°.45
11.2	04 02.2	52.9	43.6	0°.49
21.3	12.3	05 03.0	53.7	Temperature = { 62°.0
31.3	22.2	13.0	06 03.9	62°.0
41.3	32.3	2[illegible].0	13.7	53°.4
				Barometer = 30.056
7 03 21.26	7 04 12.24	7 05 02.98	7 05 53.76	

Set 2, face 2, March 6, 1873.

R.	L.	R.	L.	
h. m. s.	h. m. s.	h. m. s.	h. m. s.	
8 03 01.2	8 03 51.9	8 04 42.9	8 05 33.7	At 8^h 07^m, arc = { 0°.20
11.2	04 02.0	52.9	43.8	0°.24
21.2	11.9	05 02.9	53.8	Temperature = { 63°.0
31.2	21.9	13.0	06 03.8	63°.0
41.2	31.9	23.0	13.8	55°.4
				Barometer = 30.076
8 03 21.2	8 04 11.92	8 05 02.94	8 05 53.78	
8 33 00.1	8 33 51.0	8 34 41.8	8 35 32.7	At 8^h 37^m, arc = { 0°.18
10.1	34 01.0	52.0	42.7	0°.23
20.1	10.8	35 01.9	52.7	Temperature = { 62°.3
30.2	20.8	11.9	36 02.7	62°.3
40.2	30.7	21.8	12.7	54°.0
				Barometer = 30.070
8 33 20.14	8 34 10.86	8 35 01.88	8 35 52.7	
8 48 00.6	8 48 51.6	8 49 42.4	8 50 33.3	At 8^h 52^m, arc = { 0°.12
10.6	49 01.4	52.4	43.3	0°.15
20.6	11.4	50 02.4	53.3	Temperature = { 62°.0
30.6	21.3	12.4	51 03.3	62°.0
40.6	31.4	22.3	13.3	54°.8
				Barometer = 30.088
8 48 20.6	8 49 11.42	8 50 02.38	8 50 53.3	
9 03 01.0	9 04 51.7	9 06 42.6	9 08 33.1	At 9^h 11^m, arc = { 0°.10
11.0	05 01.7	52.6	43.2	0°.14
20.9	11.7	07 02.7	53.2	Temperature = { 62°.2
31.0	21.7	12.6	09 03.2	62°.0
41.0	31.6	22.6	13.2	54°.4
50.9	41.7	32.6	23.3	Barometer = 30.085
04 01.0	51.7	42.6	33.3	
10.9	06 01.7	52.6	43.2	
20.9	11.7	08 02.6	53.0	
30.9	21.7	12.6	10 03.1	
40.9	31.7	22.6	13.1	
9 03 50.95	9 05 41.69	9 07 32.61	9 09 23.17	

Set 3, face 3, March 7, 1873.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
5 00 00.0	5 01 51.0	5 03 41.7	5 05 32.6	At 4^{h} 57^{m}, arc = { 3°.10
10.0	02 01.0	51.7	42.6	3°.03
20.1	11.0	04 01.8	52.5	Temperature = { 44°.0
30.0	20.9	11.7	06 02.6	44°.0
40.1	30.9	21.8	12.6	41°.5
50.1	40.9	31.7	22.6	At 5^{h} 08^{m}, arc = { 2°.46
01 00.2	50.8	41.6	32.6	2°.38
10.1	03 00.8	51.7	42.5	Temperature = { 47°.0
20.1	10.8	05 01.7	52.6	45°.3
30.1	20.8	11.7	07 02.6	42°.8
40.1	30.9	21.8	12.6	Barometer = 30.026
5 00 50.08	5 02 40.89	5 04 31.72	5 06 22.58	
5 15 00.7	5 15 51.7	5 16 42.6	5 17 33.7	At 5^{h} 19^{m}, arc = { 2°.05
10.7	16 01.7	52.6	43.7	1°.97
20.6	11.7	17 02.7	53.7	Temperature = { 49°.0
30.7	21.6	12.7	18 03.7	49°.0
40.6	31.6	22.6	13.7	44°.0
				Barometer = 30.039
5 15 20.66	5 16 11.66	5 17 02.64	5 17 53.70	
5 31 01.4	5 31 54.4	5 32 45.2	5 33 36.1	At 5^{h} 35^{m}, arc = { 1°.53
11.4	32 04.4	55.2	46.0	1°.45
21.5	14.6	33 05.2	56.0	Temperature = { 51°.0
31.4	24.3	15.3	34 06.0	48°.8
41.4	34.3	25.1	16.1	46°.3
				Barometer = 30.052
5 31 21.42	5 32 14.4	5 33 05.2	5 33 56.04	
6 00 00.5	6 00 51.5	6 01 42.3	6 02 33.2	At 6^{h} 04^{m}, arc = { 0°.98
10.5	01 01.4	52.2	43.3	0°.89
20.4	11.4	02 02.2	53.1	Temperature = { 55°.6
30.4	21.3	12.2	03 03.0	53°.0
40.4	31.3	22.1	13.1	50°.3
				Barometer = 30.103
6 00 20.44	6 01 11.38	6 02 02.2	6 02 53.14	
7 00 10.4	7 01 01.0	7 01 52.3	7 02 43.0	At 7^{h} 04^{m}, arc = { 0°.45
20.3	11.2	02 02.2	53.0	0°.37
30.3	21.3	12.2	03 03.0	Temperature = { 60°.3
40.4	31.3	22.4	13.0	59°.8
50.3	41.3	32.1	23.0	54°.0
				Barometer = 29.986
7 00 30.34	7 01 21.22	7 02 12.24	7 03 03.0	

Set 3, face 3, March 7, 1873.

R.	L.	R.	L.	
h. m. s.	h. m. s.	h. m. s.	h. m. s.	
8 00 00.1	8 00 50.9	8 01 41.7	8 02 32.6	At 8h 04m, arc = 0°.25
10.1	01 00.9	51.7	42.5	0°.18
20.1	11.0	02 01.8	52.6	Temperature = 60°.0
30.1	20.8	11.6	03 02.6	60°.0
40.0	30.8	21.7	12.6	54°.9
8 00 20.08	**8 01 10.88**	**8 02 01.7**	**8 02 52.58**	Barometer = 30.006
8 30 00.9	8 30 51.6	8 31 42.6	8 32 33.5	At 8h 34m, arc = 0°.18
10.7	31 01.6	52.6	43.5	0°.11
20.6	11.6	32 02.6	53.5	Temperature = 62°.5
30.6	21.6	12.6	33 03.6	61°.8
40.5	31.6	22.6	13.5	54°.9
8 30 20.66	**8 31 11.6**	**8 32 02.6**	**8 32 53.52**	Barometer = 30.008
8 45 01.0	8 45 52.1	8 46 43.2	8 47 33.9	At 8h 49m, arc = 0°.19
11.0	46 02.1	53.1	43.9	0°.11
21.1	12.1	47 03.1	54.0	Temperature = 63°.0
31.1	22.0	13.1	48 03.9	61°.5
41.2	32.1	23.0	13.9	55°.3
8 45 21.08	**8 46 12.08**	**8 47 03.1**	**8 47 53.92**	Barometer = 30.009
9 00 01.6	9 01 52.5	9 03 42.9	9 05 43.9	At 9h 08m, arc = 0°.08
11.6	02 02.4	52.9	54.0	0°.06
21.6	12.4	04 02.9	06 04.0	Temperature = 64°.0
31.6	22.3	12.9	14.0	62°.0
41.6	32.4	33.0	24.0	54°.9
51.6	42.3	42.9	33.9	Barometer = 30.012
01 01.6	52.3	53.0	44.0	
11.5	03 02.4	05 03.0	53.9	
21.4	12.4	12.9	07 03.9	
31.4	22.3	22.9	13.8	
41.5	32.3	33.0	23.9	
9 00 51.55	**9 02 42.36**	**9 04 22.94**	**9 06 33.94**	

Set 4, face 4, March 8, 1873.

R.	L.	R.	L.	
h. m. s.	h. m. s.	h. m. s.	h. m. s.	
5 00 30.0	5 02 20.7	5 04 11.7	5 06 02.5	At $5^h\ 08^m$, arc = { 3°.08
39.9	30.8	21.7	12.5	3°.01 }
49.9	40.8	31.9	22.4	{ 65°.0
59.8	50.8	41.7	32.6	Temperature = { 61°.5
01 09.8	03 00.8	51.6	42.5	49°.4 }
19.8	10.8	05 01.7	52.4	Barometer = 29.291
29.8	20.8	11.7	07 02.5	
39.8	30.8	21.7	12.4	
49.8	40.8	31.8	22.4	
59.8	50.8	41.8	32.6	
02 09.9	04 00.7	51.7	42.4	
5 01 19.83	5 03 10.78	5 05 01.74	5 06 52.47	
5 15 30.6	5 16 21.7	5 17 12.6	5 18 03.7	At $5^h\ 19^m$, arc = { 2°.57
40.7	31.7	22.5	13.4	2°.52 }
50.6	41.6	32.6	23.5	{ 62°.3
16 00.6	51.6	42.5	33.6	Temperature = { 57°.1
10.6	17 01.7	52.6	43.5	51°.8 }
				Barometer = 29.287
5 15 50.62	5 16 41.66	5 17 32.56	5 18 23.54	
5 30 31.4	5 31 22.3	5 32 13.4	5 33 04.4	At $5^h\ 34^m$, arc = { 1°.90
41.4	32.4	23.4	14.3	1°.82 }
51.4	42.4	33.4	24.2	{ 64°.0
31 01.3	52.3	43.4	34.2	Temperature = { 59°.1
11.3	32 02.4	53.3	44.2	53°.6 }
				Barometer = 29.277
5 30 51.36	5 31 42.36	5 32 33.38	5 33 24.26	
6 00 30.7	6 01 21.7	6 02 12.5	6 03 03.4	At $6^h\ 04^m$, arc = { 1°.21
40.8	31.6	22.5	13.3	1°.17 }
50.7	41.6	32.4	23.2	{ 63°.0
01 00.8	51.6	42.4	33.2	Temperature = { 62°.1
10.7	02 01.6	52.3	43.2	56°.0 }
				Barometer = 29.263
6 00 50.74	6 01 41.62	6 02 32.42	6 03 23.28	
7 00 30.8	7 01 22.0	7 02 12.8	7 03 03.7	At $7^h\ 04^m$, arc = { 0°.50
40.9	31.8	22.8	13.8	0°.56 }
50.9	41.8	32.7	23.6	{ 62°.2
01 00.9	51.9	42.6	33.5	Temperature = { 61°.9
10.9	02 01.9	52.8	43.5	57°.0 }
				Barometer = 29 259
7 00 50.88	7 01 41.88	7 02 32.74	7 03 23.62	

Set 4, face 4, March 8, 1873.				
R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
8 00 31.0	8 01 21.9	8 02 54.8	8 03 45.7	At 8^h 05^m, arc = { 0°.25
41.1	32.0	03 04.8	55.6	0°.31 }
51.1	42.0	14.8	04 05.7	Temperature = { 57°.0
01 01.2	51.9	24.8	15.6	56°.9
11.2	02 01.8	34.9	25.8	56°.8 }
				Barometer = 29.257
8 00 51.12	8 01 41.92	8 03 14.82	8 04 05.68	
8 30 31.9	8 31 23.0	8 32 13.7	8 33 04.6	At 8^h 34^m, arc = { 0°.19
42.0	32.9	23.7	14.6	0°.23 }
52.2	42.9	33.7	24.7	Temperature = { 57°.8
31 02.2	52.8	43.9	34.7	57°.8
12.1	32 02.8	54.0	44.7	54°.9 }
				Barometer = 29.268
8 30 52.08	8 31 42.88	8 32 33.8	8 33 24.66	
8 46 00.5	8 46 51.5	8 47 41.9	8 48 33.2	At 8^h 50^m, arc = { 0°.17
10.6	47 01.3	52.3	43.2	0°.20 }
20.6	11.4	48 02.4	53.2	Temperature = { 58°.0
30.6	21.3	12.3	49 03.2	58°.0
40.6	31.3	22.3	13.3	54°.1 }
				Barometer = 29.280
8 46 20.58	8 47 11.36	8 48 02.24	8 48 53.22	
9 00 01.3	9 01 51.9	9 03 42.7	9 05 33.4	At 9^h 17^m, arc = { 0°.14
11.2	02 01.8	52.6	43.4	0°.18 }
21.2	11.8	04 02.7	53.4	Temperature = { 58°.9
31.2	21.6	12.5	06 03.3	58°.8
41.1	31.6	22.3	13.4	54°.0 }
51.2	41.7	32.6	23.4	Barometer = 29.294
01 01.1	51.7	42.7	33.4	
11.0	03 01.6	52.7	43.4	
21.0	11.6	05 02.6	53.2	
31.0	21.6	12.5	07 03.3	
41.1	31.7	22.5	13.4	
9 00 51.13	9 02 41.69	9 04 32.57	9 06 23.36	

Set 5, face 4, March 9, 1873.

R.	L.	R.	L.	
h. m. s.	h. m. s.	h. m. s.	h. m. s.	
5 00 00.6	5 01 51.8	5 03 52.7	5 05 53.5	At 5^h 08^m, arc = 3°.00, 2°.98
10.8	02 01.8	04 02.8	06 03.5	
20.8	11.7	12.6	13.4	Temperature = 49°.3, 48°.5, 45°.8
30.9	21.7	22.6	23.4	
41.0	31.8	32.7	33.4	
50.8	41.8	42.7	43.4	Barometer = 29.528
01 00.9	51.8	52.6	53.3	
10.7	03 01.8	05 02.7	07 03.3	
20.8	11.7	12.6	13.3	
30.9	21.7	22.7	23.3	
40.8	31.8	32.6	33.3	
5 00 50.84	5 02 41.76	5 04 42.66	5 06 43.37	
5 15 01.6	5 15 52.6	5 16 43.5	5 17 34.6	At 5^h 19^m, arc = 2°.35, 2°.30
11.6	16 02.6	53.6	44.5	
21.7	12.6	17 03.6	54.5	
31.7	22.6	13.6	18 04.6	Temperature = 50°.8, 49°.0, 46°.5
41.6	32.6	23.6	14.5	
5 15 21.64	5 16 12.6	5 17 03.58	5 17 54.54	Barometer = 29.520
5 30 00.6	5 30 51.4	5 31 42.2	5 32 33.3	At 5^h 34^m, arc = 1°.75, 1°.70
10.5	31 01.4	52.2	43.3	
20.5	11.4	32 02.2	53.3	
30.5	21.4	12.2	33 03.3	Temperature = 52°.0, 51°.0, 48°.0
40.4	31.3	22.2	13.3	
5 30 20.5	5 31 11.38	5 32 02.2	5 32 53.3	Barometer = 29.511
6 00 01.6	6 00 52.6	6 01 43.6	6 02 34.6	At 6^h 04^m, arc = 1°.13, 1°.06
11.6	01 02.6	53.6	44.6	
21.7	12.7	02 03.7	54.5	
31.6	22.6	13.6	03 04.5	Temperature = 52°.0, 52°.0, 49°.8
41.7	32.5	23.6	14.4	
6 00 21.64	6 01 12.6	6 02 03.62	6 03 54.52	Barometer = 29.491
7 00 01.9	7 00 52.9	7 01 43.8	7 02 34.7	At 7^h 05^m, arc = 0°.53, 0°.49
12.0	01 02.8	53.8	44.7	
21.9	12.9	02 03.8	54.8	
32.0	22.8	13.8	03 04.7	Temperature = 54°.0, 54°.0, 51°.1
42.0	32.8	23.7	14.7	
7 00 21.96	7 01 12.84	7 02 03.78	7 02 54.78	Barometer = 29.506

Set 5, face 4, March 9, 1873.

R.			L.			R.			L.			
h.	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*	*s.*	
8	00	00.5	8	00	51.2	8	01	42.0	8	02	32.8	At 8^h 04^m, arc = { 0°.30
		10.2		01	01.2			51.9			42.9	0°.25
		20.3			11.1		02	02.0			52.8	Temperature = { 55°.0
		30.3			21.1			12.0		03	02.9	55°.0
		40.3			31.0			21.9			12.9	52°.6
												Barometer = 29.481
8	00	20.32	8	01	11.12	8	02	01.96	8	02	52.86	
8	30	01.3	8	30	52.2	8	31	43.2	8	32	33.9	At 8^h 34^m, arc = { 0°.21
		11.3		31	02.2			53.2			43.8	0°.15
		21.2			12.1		32	03.3			53.8	Temperature = { 55°.0
		31.3			22.2			13.3		33	03.8	55°.0
		41.3			32.1			23.3			13.8	52°.6
												Barometer = 29.481
8	30	21.28	8	31	12.16	8	32	03.26	8	32	53.82	
8	45	01.6	8	45	52.7	8	46	43.7	8	47	34.4	At 8^h 49^m, arc = { 0°.20
		11.6		46	02.7			53.6			44.4	0°.14
		21.7			12.6		47	03.6			54.5	Temperature = { 56°.5
		31.7			22.6			13.6		48	04.4	56°.2
		41.7			32.7			23.5			14.4	52°.4
												Barometer = 29.480
8	45	21.66	8	46	12.66	8	47	03.6	8	47	54.48	
9	00	00.4	9	01	50.9	9	03	41.8	9	05	32.5	At 9^h 08^m, arc = { 0°.10
		10.4		02	01.0			52.0			42.4	0°.14
		20.3			10.9		04	01.9			52.6	Temperature = { 59°.5
		30.3			21.0			11.8		06	02.4	57°.0
		40.3			30.9			21.9			12.5	54°.1
		50.3			41.0			31.8			22.4	Barometer = 29.478
	01	00.3			50.8			41.8			32.4	
		10.3		03	00.9			51.8			42.5	
		20.3			10.9		05	01.9			52.4	
		30.2			20.9			11.9		07	02.4	
		40.2			30.8			21.8			12.4	
9	00	50.3	9	02	40.91	9	04	31.86	9	06	22.44	

Set 6, face 3, March 10, 1873.

R.	L.	R.	L.	
h. m. s.	h. m. s.	h. m. s.	h. m. s.	
5 00 02.4	5 01 53.3	5 03 44.2	5 05 34.9	Before $5^h 00^m$, arc = 3°.53
12.4	02 03.3	54.1	44.9	3°.45
22.4	13.3	04 04.1	55.0	Temperature = 57°.8
32.4	23.4	14.0	06 05.0	55°.0
42.3	33.3	24.0	14.9	54°.6
52.3	43.3	34.0	24.8	At $5^h 08^m$, arc = 2°.80
01 02.4	53.3	44.0	34.8	2°.73
12.3	03 03.3	54.0	44.8	Temperature = 59°.5
22.4	13.3	05 03.9	54.8	56°.8
32.4	23.3	13.9	07 04.9	51°.4
42.3	33.3	23.9	14.7	Barometer = 29.995
5 00 52.36	5 02 43.31	5 04 34.01	5 06 24.86	
5 15 01.0	5 15 52.2	5 16 43.0	5 17 33.9	At $5^h 19^m$, arc = 2°.25
11.0	16 02.1	52.9	43.8	2°.17
20.9	12.0	17 02.9	53.8	Temperature = 60°.6
31.0	22.0	12.9	18 03.9	56°.5
41.1	32.0	22.9	13.7	51°.3
				Barometer = 29.994
5 15 21.0	5 16 12.06	5 17 02.92	5 17 53.82	
5 30 01.6	5 30 52.7	5 31 43.6	5 32 34.5	At $5^h 34^m$, arc = 1°.75
11.7	31 02.6	53.6	44.6	1°.67
21.6	12.7	32 03.6	54.5	Temperature = 62°.0
31.6	22.6	13.6	33 04.5	58°.0
41.6	32.5	23.5	14.5	52°.4
				Barometer = 29.992
5 30 21.62	5 31 12.62	5 32 03.58	5 32 54.52	
6 00 01.0	6 00 51.9	6 01 42.8	6 02 33.5	At $6^h 04^m$, arc = 1°.12
11.0	01 01.9	52.7	43.6	1°.07
21.0	11.8	02 02.6	53.7	Temperature = 63°.0
31.0	22.0	12.6	03 03.7	63°.0
40.9	31.8	22.7	13.6	53°.7
				Barometer = 29.991
6 00 20.98	6 01 11.88	6 02 02.68	6 02 53.62	
7 00 43.2	7 01 34.0	7 02 24.7	7 03 15.6	At $7^h 05^m$, arc = 0°.53
53.2	43.9	34.8	25.7	0°.45
01 02.9	53.8	44.8	35.7	Temperature = 62°.5
13.0	02 03.9	54.7	45.6	61°.0
23.0	13.8	03 04.6	55.6	53°.2
				Barometer = 29.986
7 01 03.06	7 01 53.92	7 02 44.72	7 03 35.64	

Set 6, face 3, March 10, 1873.

R.	L.	R.	L.	
h. m. s.	h. m. s.	h. m. s.	h. m. s.	
8 00 01.3	8 00 52.0	8 01 43.1	8 02 33.8	At 8^h 05^m, arc = { 0°.33
11.2	01 02.2	53.1	43.9	0°.25
21.1	12.2	02 03.0	54.0	Temperature = { 61°.8
31.3	22.3	13.0	03 03.9	60°.7
41.2	32.3	22.9	13.7	52°.3
8 00 21.22	8 01 12.2	8 02 03.02	8 02 53.86	Barometer = 29.975
8 30 02.3	8 30 53.3	8 31 44.0	8 32 34.7	At 8^h 34^m, arc = { 0°.23
12.3	31 03.3	53.9	44.9	0°.17
22.2	13.2	32 03.9	54.9	Temperature = { 63°.0
32.2	23.0	13.8	33 04.9	61°.1
42.1	33.1	23.8	14.9	54°.0
8 30 22.22	8 31 13.18	8 32 03.88	8 32 54.86	Barometer = 29.976
8 45 00.6	8 45 51.6	8 46 42.6	8 47 33.6	At 8^h 49^m, arc = { 0°.19
10.7	46 01.7	52.6	43.5	0°.10
20.7	11.6	47 02.6	53.6	Temperature = { 62°.8
30.7	21.7	12 6	48 03.5	61°.7
40.6	31.7	22.7	13.4	55°.0
8 45 20.66	8 46 11.66	8 47 02.62	8 47 53.52	Barometer = 29.976
9 00 11.3	9 02 01.9	9 03 52.7	9 05 43.5	At 9^h 07^m, arc = { 0°.19
21.3	12.0	04 02.7	53.6	0°.12
31.1	22.0	12.7	06 03.6	Temperature = { 61°.8
41.2	31.9	22.8	13.6	61°.5
51.2	41.8	32.8	23.6	55°.0
01 01.1	51.9	42.8	33.6	Barometer = 29.977
11.0	03 01.8	52.7	43.5	
21.0	11.9	05 02.7	53.5	
31.0	21.9	12.6	07 03.5	
41.0	31.9	22.6	13.5	
50.9	41.8	32.6	23.5	
9 01 01.1	9 02 51.89	9 04 42.7	9 06 33.53	

Set 7, face 2, March 11, 1873.

R.	L.	R.	L.	
h. m. s.	h. m. s.	h. m. s.	h. m. s.	
5 00 00.4	5 01 51.3	5 03 42.0	5 05 32.9	At 4^h 58^m, arc = { 4°.40
10.4	02 01.4	52.0	42.9	4°.35
20.3	11.3	04 02.1	52.9	Temperature = { 62°.2
30.3	21.3	12.1	06 02.9	58°.0
40.4	31.2	22.1	12.9	52°.0
50.4	41.3	32.1	22.7	At 5^h 07^m, arc = { 3°.12
01 00.4	51.2	42.1	32.8	3°.06
10.4	03 01.2	52.0	42.8	Temperature = { 62°.0
20.4	11.1	05 02.0	52.8	57°.2
30.4	21.1	12.1	07 02.7	51°.5
40.3	31.1	22.0	12.7	Barometer = 29.999
5 00 50.37	5 02 41.23	5 04 32.06	5 06 22.82	
5 15 01.3	5 15 52.2	5 16 42.9	5 17 33.8	At 5^h 19^m, arc = { 2°.58
11.3	16 02.2	53.0	43.9	2°.53
21.2	12.0	17 02.9	53.9	Temperature = { 62°.0
31.2	22.0	12.9	18 03.9	58°.0
41.2	32.0	22.8	13.8	52°.6
				Barometer = 29.998
5 15 21.24	5 16 12.08	5 17 02.9?	5 17 53.86	
5 30 01.8	5 30 52.7	5 31 43.6	5 32 34.6	At 5^h 34^m, arc = { 2°.05
11.8	31 02.5	53.6	44.5	2°.00
21.8	12.7	32 03.6	54.4	Temperature = { 63°.0
31.7	22.8	13.5	33 04.5	59°.5
41.8	32.8	23.5	14.5	54°.3
				Barometer = 29.999
5 30 21.78	5 31 12.7	5 32 03.56	5 32 54.5	
6 00 01.3	6 00 51.9	6 01 42.9	6 02 33.8	At 6^h 04^m, arc = { 1°.28
11.3	01 01.9	53.0	44.0	1°.22
21.2	12.0	02 02.9	53.9	Temperature = { 63°.0
31.2	21.9	12.9	03 03.8	59°.5
41.1	32.0	22.9	13.8	55°.0
				Barometer = 29.999
6 00 21.22	6 01 11.94	6 02 02.92	6 02 53.86	
7 00 01.3	7 00 52.0	7 01 43.0	7 02 34.0	At 7^h 04^m, arc = { 0°.93
11.2	01 02.0	53.1	44.1	0°.88
21.2	12.0	02 03.1	53.9	Temperature = { 65°.8
31.2	22.2	13.2	03 04.0	64°.8
41.0	32.1	23.2	14.0	52°.7
				Barometer = 29.998
7 00 21.18	7 01 12.06	7 02 03.12	7 02 54.0	

Set 7, face 2, March 11, 1873.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
8 00 01.3	8 00 52.3	8 01 43.3	8 02 34.0	At 8^h 05^m, arc = { 0°.34
11.3	01 02.4	53.3	44.0	0°.30
21.4	12.3	02 03.2	54.0	66°.5
31.2	22.2	13.2	03 04.0	Temperature = { 65°.4
41.3	32.2	23.1	14.1	57°.5
				Barometer = 29.993
8 00 21.3	8 01 12.28	8 02 03.22	8 02 54.02	
9 00 01.1	9 00 52.3	9 01 43.2	9 02 34.0	At 9^h 06^m, arc = { 0°.19
11.2	01 02.2	53.1	44.0	0°.15
21.2	12.2	02 03.1	54.0	66°.2
31.3	22.2	13.2	03 04.0	Temperature = { 65°.5
41.1	32.1	23.2	14.1	57°.8
				Barometer = 29.999
9 00 21.18	9 01 12.2	9 02 03.16	9 02 54.02	
9 30 00.5	9 30 51.3	9 31 42.3	9 32 33.0	At 9^h 34^m, arc = { 0°.14
10.5	31 01.3	52.3	42.9	0°.10
20.5	11.2	32 02.3	52.8	66°.6
30.4	21.2	12.2	33 02.8	Temperature = { 65°.4
40.3	31.1	22.2	12.6	57°.9
				Barometer = 29.998
9 30 20.44	9 31 11.22	9 32 02.26	9 32 52.82	
9 45 00.8	9 45 51.6	9 46 42.6	9 47 33.5	At 9^h 49^m, arc = { 0°.12
10.7	46 01.8	52.7	43.5	0°.09
20.9	11.7	47 02.7	53.6	66°.0
30.8	21.8	12.7	48 03.6	Temperature = { 65°.3
40.7	31.6	22.6	13.5	58°.0
				Barometer = 29.999
9 45 20.78	9 46 11.7	9 47 02.66	9 47 53.54	
10 00 01.3	10 02 02.2	10 03 52.9	10 05 43.7	At 10^h 08^m, arc = { 0°.05
11.4	12.2	04 02.9	53.6	0°.10
21.4	22.0	12.9	06 03.5	66°.4
31.4	31.9	22.9	13.5	Temperature = { 65°.3
41.4	41.8	32.8	23.4	58°.1
51.5	51.7	42.7	33.6	Barometer = 29.999
01 01.4	03 01.8	52.8	43.6	
11.5	11.8	05 02.9	53.7	
21.5	21.8	13.0	07 03.5	
41.5	31.8	22.9	13.5	
51.6	41.8	32.9	23.5	
10 00 51.45	10 02 51.89	10 04 42.87	10 06 33.56	

Set 8, face 1, March 12, 1873.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
5 00 01.6	5 01 52.7	5 03 43.5	5 05 34.3	At $4^h\ 58^m$, arc = $\begin{cases} 3^\circ.60 \\ 3^\circ.49 \end{cases}$
11.6	02 02.6	53.6	44.4	
21.7	12.6	04 03.4	54.4	Temperature = $\begin{cases} 60^\circ.0 \\ 56^\circ.0 \\ 51^\circ.5 \end{cases}$
31.6	22.5	13.4	06 04.3	
41.7	32.5	23.4	14.5	
51.6	42.5	33.4	24.4	At $5^h\ 08^m$, arc = $\begin{cases} 2^\circ.85 \\ 2^\circ.76 \end{cases}$
01 01.6	52.6	43.3	34.4	
11.8	03 02.6	53.4	44.4	Temperature = $\begin{cases} 61^\circ.0 \\ 57^\circ.0 \\ 51^\circ.8\,? \end{cases}$
21.6	12.5	05 03.3	54.3	
31.6	22.6	13.3	07 04.3	
41.6	32.6	23.3	14.3	Barometer = 30.002
5 00 51.64	5 02 42.57	5 04 33.39	5 06 24.36	
5 15 00.8	5 15 51.6	5 15 42.5	5 16 33.4	At $5^h\ 18^m$, arc = $\begin{cases} 2^\circ.35 \\ 2^\circ.20 \end{cases}$
10.6	01.6	52.5	43.4	
20.7	11.5	16 02.4	53.3	Temperature = $\begin{cases} 61^\circ.8 \\ 58^\circ.0 \\ 53^\circ.0 \end{cases}$
30.4	21.6	12.4	17 03.4	
40.5	31.5	22.4	13.4	
5 15 20.6	5 15 11.56	5 16 02.44	5 16 53.38	Barometer = 30.002
5 30 01.4	5 30 52.2	5 31 43.3	5 32 33.9	At $5^h\ 31^m$, arc = $\begin{cases} 1^\circ.83 \\ 1^\circ.70 \end{cases}$
11.3	31 02.3	53.3	44.0	
21.3	12.3	32 03.3	54.0	Temperature = $\begin{cases} 63^\circ.0 \\ 60^\circ.1 \\ 54^\circ.3 \end{cases}$
31.2	22.2	13.2	33 04.0	
41.3	32.3	23.1	14.4	
5 30 21.3	5 31 12.26	5 32 03.24	5 32 54.06	Barometer = 30.004
6 00 00.6	6 00 51.5	6 01 42.4	6 02 33.5	At $6^h\ 04^m$, arc = $\begin{cases} 1^\circ.18 \\ 1^\circ.05 \end{cases}$
10.6	01 01.5	52.4	43.4	
20.6	11.5	02 02.5	53.4	Temperature = $\begin{cases} 64^\circ.0 \\ 62^\circ.0 \\ 56^\circ.0 \end{cases}$
30.5	21.4	12.4	03 03.5	
40.6	31.4	22.4	13.5	
6 00 20.58	6 01 11.46	6 02 02.48	6 02 53.46	Barometer = 30.006
7 00 01.1	7 00 52.0	7 01 42.8	7 02 33.6	At $7^h\ 04^m$, arc = $\begin{cases} 0^\circ.68 \\ 0^\circ.53 \end{cases}$
11.1	01 02.0	52.7	43.8	
21.0	12.0	02 02.8	53.9	Temperature = $\begin{cases} 65^\circ.4 \\ 64^\circ.3 \\ 57^\circ.8 \end{cases}$
30.9	21.9	12.7	03 03.8	
40.9	32.0	22.6	13.7	
7 00 21.0	7 01 11.98	7 02 02.72	7 02 53.76	Barometer = 30.029

Set 8, face 1, March 12, 1873.

R.	L.	R.	L.	
h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
8 00 01.3	8 00 52.4	8 01 43.2	8 02 34.2	At 8^h 04^m, arc = { 0°.33
11.3	01 02.3	53.3	44.2	0°.20 }
21.3	12.2	02 03.4	54.2	Temperature = { 69°.0, 68°.1, 61°.2 }
31.4	22.3	13.3	03 04.0	
41.3	32.4	23.3	14.0	Barometer = 30.043
8 00 21.32	8 01 12.32	8 02 03.3	8 02 54.12	
9 00 01.6	9 00 52.7	9 01 43.4	9 02 34.4	At 9^h 04^m, arc = { 0°.15 (? prob. 0°.25).
11.5	01 02.7	53.3	44.5	0°.06 (? prob. 0°.16). }
21.6	12.7	02 03.3	54.7	Temperature = { 69°.6, 69°.0, 62°.0 }
31.5	22.6	13.4	03 04.6	
41.6	32.6	23.4	14.5	Barometer = 30.063
9 00 21.56	9 01 12.66	9 02 03.36	9 02 54.54	
9 30 00.9	9 30 51.7	9 31 42.6	9 32 33.5	At 9^h 34^m, arc = { 0°.18
10.9	31 01.8	52.6	43.6	0°.19 }
20.8	11.7	32 02.5	53.6	Temperature = { 69°.6, 69°.0, 62°.0 }
30.8	21.8	12.6	33 03.5	
40.7	31.6	22.6	13.6	Barometer = 30.063
9 30 20.82	9 31 11.72	9 32 02.58	9 32 53.56	
9 45 01.6	9 45 52.4	9 46 43.3	9 47 34.2	At 9^h 49^m, arc = { 0°.17
11.5	46 02.4	53.2	44.2	0°.07 }
21.6	12.4	47 03.1	54.2	Temperature = { 69°.5, 69°.0, 62°.1 }
31.6	22.4	13.2	48 04.1	
41.4	32.4	23.3	14.2	
9 45 21.54	9 46 12.4	9 47 03.22	9 47 54.18	
10 00 01.9	10 01 52.8	10 03 43.6	10 05 34.3	At 10^h 08^m, arc = { 0°.16
11.9	02 02.7	53.6	44.4	0°.06 }
22.0	12.7	04 03.7	54.5	Temperature = { 69°.5, 69°.0, 61°.3 }
31.9	22.7	13.7	06 04.5	
42.0	32.7	23.5	14.4	Barometer = 30.064
51.9	42.7	33.5	24.3	
01 01.9	52.7	43.5	34.4	
11.8	03 02.6	53.5	44.4	
21.9	12.6	05 03.5	54.3	
31.9	22.7	13.5	07 04.3	
41.8	32.6	23.6	14.3	
10 00 51.91	10 02 42.68	10 04 33.56	10 06 24.37	

FORMULÆ AND METHOD OF REDUCTION.

The reduction of the observations under consideration was made in a similar manner to those of Polaris Bay. The chronometer used was solar chronometer D, having a gaining daily rate of $2^s.5$. As mentioned before, an additional thermometer was fastened inside the box, midway between the two original ones.

All that needs to be mentioned here is that the temperatures, as indicated by the thermometers P_a and P_b, differ but slightly. For this reason, we deemed ourselves justified in using the mean between P_a and P_b; and the corrections for temperature were treated in the same manner as those of the Polaris Bay observations, assuming the mean between P_a and P_b as the upper, and the indications of P_c as the lower temperature.

As the excess is positive here, we have to subtract the middle series from the preceding ones, and the following ones from the middle one, in order to obtain the intervals. As the difference between the sums of the + and − intervals was also found to be greater than could be attributed to the effect of the error of the middle series, the values for the intervals were treated in an analytical manner by the method of least squares.

The method of adjusting the intervals before obtaining the value of the excess is shown in a small additional computation, the first column of which contains the difference between the series of the same name but opposite sign; the second column gives half of their values, underneath which the mean is to be found, representing the function—

$$\alpha + 6\beta + 41\gamma$$

the third column gives then the difference between each value of the second column and its mean; the fourth and fifth columns give the coëfficients of β and γ corresponding to these differences.

The values of γ, β, and α are given below; also, the corrections to be applied to the intervals.

Chronometer-Comparisons.

MARCH 5, 1873.

	h.	m.	s.	s.	h.	m.	s.	s.
D	5	57	20.0	26.0	10	14	30.0	39.4
A	1	54	06.0	8.0	6	11	55.3	5.0
D	5	58	02.0	9.5	10	15	17.0	24.5
B	6	04	40.5	48.0	10	22	38.5	46.0
D	5	58	50.0	57.0	10	16	53.0	59.5
C	6	01	19.0	26.0	10	19	04.5	11.0

MARCH 6, 1873.

	h.	m.	s.	s.	h.	m.	s.	s.
D	5	12	40.0	46.0	9	13	51.0	57.0
A	1	13	16.0	22.0	5	15	07.5	13.5
D	5	13	10.0	17.5	9	14	27.0	33.5
B	5	23	42.5	50.0	9	25	39.5	46.0
D	5	14	50.0	58.5	9	15	04.0	11.5
C	5	21	11.5	20.0	9	22	05.5	13.0

MARCH 7, 1873.

	h.	m.	s.	s.	h.	m.	s.	s.
D	5	54	01.0	7.5	9	15	27.0	33.0
A	12	58	35.5	42.0	5	20	44.8	50.0
D	5	54	43.0	49.5	9	16	01.0	7.0
B	5	09	13.5	20.0	9	31	15.0	21.0
D	5	55	25.0	31.5	9	16	38.0	44.0
C	5	05	42.5	49.0	9	27	39.0	45.0

MARCH 8, 1873.

	h.	m.	s.	s.	h.	m.	s.	s.
D	5	57	20.0	26.0	9	12	48.0	55.0
A	1	05	56.0	2.0	5	22	07.0	14.0
D	5	57	48.0	54.0	9	13	35.0	41.0
B	5	16	20.0	26.0	9	32	50.0	56.0
D	5	58	15.0	21.5	9	14	20.0	26.0
C	5	12	33.5	39.0	9	29	20.0	26.0

MARCH 9, 1873.

	h.	m.	s.	s.	h.	m.	s.	s.
D	4	54	20.0	26.0	9	13	40.0	46.0
A	1	06	57.0	3.0	5	27	00.0	6.0
D	4	54	49.0	55.0	9	14	08.0	14.5
B	5	17	22.0	28.0	9	37	24.5	31.0
D	4	55	20.0	26.5	9	15	01.0	7.0
C	5	13	36.5	43.0	9	34	01.0	7.0

MARCH 10, 1873.

	h.	m.	s.	s.	h.	m.	s.	
D	4	52	35.0	42.0	9	10	30.0	Original record rendered illegible by water-stains.
A	1	09	14.0	20.0	5	27	51.5	
D	4	53	02.0	7.5	9	11	06.0	
B	5	19	35.5	42.0	9	38	23.8	
D	4	53	45.0	51.0	9	11	54.0	
C	5	16	01.0	7.0	9	34	53.0	

MARCH 11, 1873.

	h.	m.	s.	s.	h.	m.	s.	s.
D	5	08	40.0	46.0	10	13	06.0	12.0
A	1	29	22.5	28.5	6	34	39.0	45.0
D	5	10	10.0	17.0	10	13	30.0	37.0
B	5	40	49.0	56.0	10	45*	0.0	7.0
D	5	10	38.0	44.5	10	14	24.0	30.0
C	5	36	56.5	3.0	10	41	33.0	39.0

MARCH 12, 1873.

	h.	m.	s.	s.	h.	m.	s.	s.
D	5	12	10.0	16.0	10	16	06.0	12.0
A	1	36	54.0	0.0	6	41	41.0	47.0
D	5	12	30.0	35.5	10	16	30.0	35.5
B	5	47	10.5	16.0	10	52	01.5	7.0
D	5	13	04.0	9.5	10	17	36.0	42.0
C	5	43	22.5	28.0	10	48	45.0	51.0

* Recorded 54 by mistake.

Face 1.

15ᵐ interval.	Chronometer-time.	Arc.	Temperature of the— Air.			Pendulum. P_a	P_b	P_c	$1.71A^2$	Sums.	Corrections for— Arc.	Temperature.		Barometer.	Total.
	h. m.	°	°	°	°	°	°	°	s.	° ° °	s.	s.	s.	s.	s.
− 8	6 04.6	2.07	59.6	59.0	48.4	59.7	58.9	49.0	7.3	77.7 + 69.8 −− 6.7	16.4	+24.7	−0.9	−0.5	+0.40
7	19.6	1.48	59.8	59.0	49.0	59.7	58.9	49.2	3.8	63.0 + 60.9 − 5.7	9.1	+21.6	−0.8	−0.5	+ .29
6	34.6	1.00	60.0	59.0	49.0	59.8	58.9	49.3	1.7	58.3 + 52.0 − 4.9	5.3	+18.5	−0.7	−0.4	+ .23
5	49.6	0.86	60.0	58.9	49.2	59.8	58.8	49.4	1.3						
4	7 04.6	0.74	59.8	58.5	49.0	59.7	58.7	49.3	0.9	33.7 + 34.3 − 3.6	2.3	+12.2	−0.5	−0.4	+ .14
3	19.6	0.65	59.7	58.4	48.9	59.7	58.7	49.2	0.7						
2	34.6	0.50	59.5	57.8	48.5	59.7	58.5	49.0	0.4						
− 1	49.6	0.41	59.2	57.5	48.2	59.6	58.4	48.9	0.3						
0	8 04.6	0.32	59.1	57.3	48.2	59.6	58.3	48.8	0.2						
+ 1	19.6	0.27	59.2	57.8	48.7	59.6	58.9	49.1	0.1						
2	34.6	0.23	59.2	58.3	49.4	59.6	58.6	49.5	0.1						
3	49.6	0.19	59.3	58.8	49.9	59.6	58.8	49.7	0.1						
4	9 04.6	0.15	59.5	59.2	50.3	59.6	58.9	49.9	0.0	38.4 + 34.2 − 2.9	0.5	+12.2	−0.4	−0.4	+ .12
5	19.6	0.11	60.0	59.9	51.0	59.8	59.1	50.3	0.0						
6	34.6	0.08	60.4	60.4	51.8	59.9	59.3	50.7	0.0	57.8 + 52.2 − 2.7	0.5	+18.4	−0.4	−0.6	+ .18
7	49.6	0.07	60.2	60.2	52.6	59.8	59.3	51.9	0.0	67.7 + 61.5 − 2.0	0.5	+21.6	−0.3	−0.7	+ .21
+ 8	10 04.6									77.5 + 70.8 − 0.1	0.5	+ 21.8	0.0	−−0.8	+0.24
Mean			59.7	58.8	49.5										

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd.	Δ
	s.	s.	s.	s.	s.				s.	s.	s.	s.	
− 8	.09	.02	.83	.62	.89	+ 20	+ 40	.49	− 11.50	−− 11.98	+ 95.8	− 11.98	0
7	.00	.96	.74	.60	.82		+ 29	.11	10.12	10.45	73.2	10.48	+ 3
6	.56	.58	.58	.58	.57		+ 23	.80	8.81	9.01	54.1	8.98	− 3
− 4	.56	.50	.46	.40	.49	+ 30	+ 14	.93	− 5.94	5.97	23.9	− 5.99	+ 2
0	.10	.02	.04	.80	.99			.99		− 0.11			− 1
+ 4	.12	.06	.00	.62	.95	+ 8	− 12	.91	+ 6.08	+ 6.05	24.2	+ 5.99	+ 6
6	.38	.00	.04	.66	.02		− 18	.84	9.15	8.95	53.7	8.98	− 3
7	.50	.34	.44	.30	.40	+ 10	− 21	.29	10.70	10.37	72.6	10.48	−11
+ 8	.27	.64	.75	.38	.51	+ 20	− 24	.47	+ 12.52	+ 12.05	+ 96.4	+ 11.98	+ 7
									+ 38.45		+493.9		
									− 36.37		+ 1.497		
									+ 2.08		+143.7		
									+ 0.23		− 2.5 = D		
											41.2 = V		

Equations of condition.			*Normal equations.*	
$7 = 1\alpha + 7\beta + 16\gamma$	$-2\beta - 25\gamma$	-19Δ	$104 = 4\alpha + 25\beta + 165\gamma$	Result, $\gamma = 50.9$
$17 = 1\alpha + 6\beta + 36\gamma$	-5γ	-9Δ	$741 = 25\alpha + 165\beta + 1135\gamma$	$\beta = 0.0$
$29 = 1\alpha + 7\beta + 49\gamma$	$+1\beta + 8\gamma$	$+3\Delta$	$5409 = 165\alpha + 1135\beta + 8049\gamma$	$\alpha = 11$
$51 = 1\alpha + 8\beta + 64\gamma$	$+2\beta + 23\gamma$	$+25\Delta$		
26	61	56		

Face 2.

15m interval.	Chronometer-time.	Arc.	Temperature of the— Air.			Pendulum. P_a	P_b	P_c	$1.71A^2$	Sums.	Corrections for— Arc.	Temperature.		Barometer.	Total.
	h. m.	°	°	°	°	°	°	°	s.	° ° °	s.	s.	s.	s.	s.
− 8	5 04.6	2.44	55.1	55.1	46.2	59.1	58.6	49.3	10.2	79.1+77.6+10.9	26.0	+26.2	+1.5	+0.5	+0.54
7	19.6	1.83	56.3	56.3	47.8	59.4	59.0	50.1	5.7	70.0+69.0+11.6	15.8	+23.3	+1.6	+0.4	+ .41
6	34.6	1.46	56.9	56.9	49.3	59.5	59.2	50.9	3.6	60.6+60.0+11.5	10.1	+20.2	+1.6	+0.3	+ .32
5	49.6	1.19	56.9	56.9	50.3	59.5	59.2	51.3	2.4						
4	6 04.6	0.97	59.3	59.2	51.4	60.1	60.0	51.9	1.6	41.6+41.6+ 9.3	4.1	+13.9	+1.3	+0.2	+ .19
3	19.6	0.83	60.0	60.0	51.9	60.3	60.3	52.2	1.2						
2	34.6	0.69	60.8	60.8	52.5	60.5	60.5	52.5	0.8						
− 1	49.6	0.56	61.5	61.5	53.0	60.7	60.8	52.7	0.5						
0	7 04.6	0.45	62.1	62.1	53.6	60.8	61.0	53.0	0.4						
+ 1	19.6	0.39	62.3	62.3	54.1	60.9	61.0	53.2	0.3						
2	34.6	0.32	62.6	62.6	54.6	61.0	61.1	53.5	0.2						
3	49.6	0.26	62.8	62.8	55.1	61.0	61.2	53.7	0.1						
4	8 04.6	0.22	62.9	62.9	55.2	61.0	61.2	53.8	0.1	43.7+44.3+13.4	1.0	+14.7	+1.8	+0.4	+ .18
5	19.6	0.21	62.5	62.5	54.5	60.9	61.1	53.5	0.1						
6	34.6	0.18	62.2	62.2	54.1	60.8	61.0	53.3	0.1	65.6+66.6+20.7	1.2	+22.1	+2.8	+0.6	+ .27
7	49.6	0.13	62.0	62.0	54.7	60.8	61.0	53.5	0.0	76.4+77.6+24.0	1.3	+25.8	+3.2	+0.7	+ .31
+ 8	9 04.6									87.2+88.6+27.5	1.3	+29.4	+3.7	+0.8	+0.35
Mean.........			60.4	60.4	52.4										

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd.	Δ
	s.	s.	s.	s.	s.				s.	s.	s.	s.	
− 8	.54	.26	.13	.12	.26	+ 20	+ 54	.00	− 11.94	− 12.30	+ 98.4	− 12.24	− 6
7	.12	.00	.68	.68	.87	+ 10	+ 41	.38	10.32	10.60	74.2	10.71	+11
6	.90	.78	.68	(.50)	.71		+ 32	.03	8.97	9.19	55.1	9.18	− 1
− 4	.18	.00	.84	.78	.95		+ 19	.14	− 6.08	6.20	24.8	− 6.12	−08
0	.26	.24	.98	.76	.06			.06		− 0.24			−24
+ 4	.20	.92	.94	.78	.96		− 18	.78	+ 6.28	+ 6.16	24.6	+ 6.12	+ 4
6	.14	.86	.88	.70	.90		− 27	.63	9.43	9.21	55.3	9.18	+ 3
7	.60	.42	.38	.30	.42		− 31	.11	10.95	10.67	74.7	10.71	− 4
+ 8	.95	.69	.61	.17	.61	+ 20	− 35	.46	+ 12.60	+ 12.24	+ 97.9	+ 12.24	+ 0
									+ 39.26		+505.0		
									− 37.31		+ 1.530		
									+ 1.95		+146.9 = 24h		
									+ 0.22		− 2.5 = D		
											144.4 = V		

Diff.	½	Δ′	β	γ	Δ″	Corr.	
20	10	− 14	− 2	− 25	− 1	36	Result, $\gamma = + 0.5$
46	23	− 1		− 5		28	$\beta = 0.0$
63	31	+ 7	+ 1	+ 8	+ 3	22	$\alpha = + 4$
66	33	+ 9	+ 2	+ 23	− 2	12	
$a + 6\beta + 41\gamma =$	24	31		61			

Face 3.

15m interval.	Chronometer-time.	Arc.	Temperature of the— Air.			Temperature of the— Pendulum. P_a	P_b	P_c	$1.71A^2$	Sums.	Corrections for— Arc.	Temperature.		Barometer.	Total.
	h. m.	°	°	°	°	°	°	°	s.	° ° °	s.	s.	s.	s.	s.
− 8	5 01.6	2.38	47.2	45 6	42.9	55.0	52.9	47.4	9.7	54.0+41.4+ 2.9	24.5	+16.0	+0.6	+0.7	+0.42
7	16.6	1.83	49.6	48.9	44.8	55.6	54.0	48.3	5.8	49.0+38.5+ 5.5	14.8	+14.7	+0.7	+0.6	+ .31
6	31.6	1.40	51.7	49.4	46.9	56.1	54.1	49.3	3.4	43.4+34.5+ 7.2	9.0	+13.0	+1.0	+0.5	+ .23
5	46.6	1.10	54.1	51.6	49.0	56.7	54.9	50.4	2.1						
4	6 01.6	0.89	56.0	53.5	50.6	57.2	55.5	51.2	1.4	30.6+25.5+ 7.5	3.5	+ 9.4	+1.0	+0.4	+ .14
3	16.6	0.75	57.2	55.3	51.5	57.5	56.1	51.6	1.0						
2	31.6	0.62	58.4	57.0	52.5	57.8	56.7	52.1	0.7						
− 1	46.6	0.49	59.5	58.7	53.4	58.1	57.2	52.6	0.8						
0	7 01.6	0.39	60.3	59.8	54.1	58.3	57.6	53.0	0.3						
+ 1	16.6	0.34	60.2	59.9	54.3	58.2	57.6	53.0	0.2						
2	31.6	0.29	60.1	60.0	54.5	58.2	57.7	53.1	0.1						
3	46.6	0.25	60.0	60.0	54.8	58.2	57.7	53.3	0.1						
4	8 01.6	0.21	60.4	60.3	54.9	58.3	57.8	53.4	0.1	32.9+30.6+12.4	0.7	+10.6	+1.7	+0.3	+ .13
5	16.6	0.17	61.7	61.2	54.9	58.6	58.1	53.4	0.1						
6	31.6	0.14	62.7	61.8	55.0	58.9	57.9	53.4	0.0	49.8+46.5+19.2	0.9	+16.1	+2.6	+0.4	+ .20
7	46.6	0.12	63.2	61.6	55.2	59.0	58.2	53.5	0.0	58.7+54.4+22.6	0.9	+18.9	+3.1	+0.5	+ .23
+ 8	9 01.6									67.7+62.6+26.1	0.9	+21.8	+3.5	+0.6	+0.27
Mean.........			57.6	56.5	51.8										

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd.	Δ
	s.	s.	s.	s.	s.				s.	s.	s.	s.	
− 8	.08	.89	.72	.58	.82	+ 20	+ 42	.44	− 12.24	− 12.63	+ 101.0	− 12.68	+ 5
7	.66	.66	.64	.70	.67		+ 31	.98	10.78	10.09	77.6	11.10	+ 1
6	.42	.40	.20	.04	.26		+ 23	.49	9.29	9.54	57.2	9.51	− 3
− 4	.44	.38	.20	.14	.29		+ 14	.43	− 6.23	− 6.38	25.5	− 6.34	− 4
0	.34	.22	.24	.00	.20			.20		+ 0.07			+ 7
+ 4	.08	.88	.70	.58	.81		− 13	.68	+ 6.52	6.37	25.5	+ 6.34	+ 3
6	.66	.60	.60	.52	.60		− 20	.40	9.80	9.55	57.3	9.51	+ 4
7	.08	.08	.10	.92	.04		− 23	.81	11.39	11.08	77.6	11.10	− 2
+ 8	.55	.36	.95	.96	.20	+ 20	− 27	.13	+ 13.07	+ 12.68	+ 101.4	+ 12.68	0
									+ 40.78		+523.1		
									− 38.54		+ 1.585		
									+ 2.24		+152.2 = 24^h		
									+ 0.25		− 2.5 = D		
											49.7 = V		

Diff.	½	Δ′	β	γ	Δ″	Corr.	
29	14	− 14	− 2	− 25	− 1	39	Result, $\gamma = +\ 0.5$
51	25	− 3		− 5		31	$\beta = \quad 0.0$
61	30	+ 2	+ 1	+ 8	− 2	25	$\alpha = +\ 7$
83	41	+ 13	+ 2	+ 23	+ 1	15	
$\alpha + 6\beta + 41\gamma =$	28	32		61			

Face 4.

15ᵐ interval.	Chronometer-time.	Arc.	Temperature of the— Air.			Pendulum. P_a	P_b	P_c	$1.71A^2$	Sums.	Corrections for— Arc.	Temperature.		Barometer.	Total.
	h. m.	°	°	°	°	°	°	°	s.	° ° °	s.	s.	s.	s.	s.
— 8	5 02.1	2.94	64.5	60.7	49.8	61.8	60.1	52.6	14.8	91.6+81.3+39.7	37.8	+28.9	+5.4	—1.5	+0.71
7	17.1	2.31	62.9	57.4	52.1	61.4	59.0	53.7	9.1	79.8+71.2+37.1	23.0	+25.3	+5.0	—1.3	+ .53
6	32.1	1.72	63.8	59.7	54.1	61.6	59.8	54.7	5.0	68.4+62.2+33.4	13.9	+21.9	+4.5	—1.1	+ .39
5	47.1	1.41	63.3	61.4	55.2	61.5	60.3	55 2	3.4						
4	6 02.1	1.12	62.9	62.1	56.1	61.4	60.6	55.7	2.1	45.3+42.1+23.5	5.5	+14.6	+3.2	—0.8	+ .23
3	17.1	0.96	62.7	62.0	56.3	61.4	60.5	55.8	1.6						
2	32.1	0.79	62.5	62.0	56.6	61.3	60.5	55.9	1.1						
— 1	47.1	0.64	62.3	61.9	56.8	61.2	60.5	56.1	0.7						
0	7 02.1	0.50	61.7	61.4	57.0	61.1	60.3	56.1	0.4						
+ 1	17.1	0.45	60.5	60.2	56.9	60.8	59.9	56.1	0.3						
2	32.1	0.38	59.1	58.9	56.9	60.5	59.5	56.1	0.3						
3	47.1	0.32	57.9	57.7	56.8	60.1	59.1	56.1	0.2						
4	8 02.1	0.27	57.1	57.1	56.5	60.0	58.9	55.9	0.1	42.5+38.8+24.4	1.2	+13.6	+3.3	—0.8	+ .17
5	17.1	0.23	57.5	57.5	55.5	60.0	59.0	55.4	0.1						
6	32.1	0.20	57.9	57.9	54.6	60.1	59.2	55.0	0.1	62.5+56.7+35.7	1.4	+20.0	+4.8	—1.1	+ .26
7	47.1	0.17	58.2	58.2	54.0	60.2	59.3	54.6	0.0	72.6+65.9+40.7	1.5	+23.2	+5.5	—1.3	+ .30
+ 8	9 02.1									82.8+75.2+45.3	1.5	+26.5	+6.1	—1.5	+0.34
Mean........			60.9	59.8	55.3										

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd.	Δ
	s.	s.	s.	s.	s.				s.	s.	s.	s.	
— 8	.83	.78	.74	.47	.70	+ 20	+ 71	.61	— 11.83	— 12.06	+ 96.5	— 12.06	0
7	.62	.66	.56	.54	.60		+ 53	.13	10.35	10.52	73.6	10.55	+ 3
6	.36	.36	.38	.26	.34		+ 39	.73	8.95	9.06	54.4	9.04	— 2
— 4	.74	.62	.42	.28	.51		+ 23	.74	— 5.96	5.99	24.0	— 6.03	+ 4
0	.88	.88	.74	.62	.78			.78		— 0.03			— 3
+ 4	.12	.92	.82	.68	.86	+ 8	— 17	.77	+ 6.01	+ 5.98	23.9	+ 6.03	— 5
6	.08	.88	.80	.66	.85		— 26	.59	9.19	9.08	54.5	9.04	+ 4
7	.58	.36	.24	.22	.35	+ 5	— 30	.10	10.68	10.51	73.6	10.55	— 4
+ 8	.13	.69	.57	.36	.68	+ 15	— 34	.49	+ 12.29	+ 12.06	+ 96.5	+ 12.06	0
									+ 38.17		+497.0		
									— 37.09		+ 1.507		
									+ 1.08		+144.7 = 24ʰ		
									+ 0.12		— 2.5 = D		
											42.2 = V⌟		

Diff.	½	Δ′ β γ	Δ″	Corr.	
5	2	— 11 — 2 — 25	— 1	— 3 — 3 — 3 — 3	Result, $\gamma = + 0.4$
23	11	— 2 — 5		+ 6 + 14 + 20 + 26	$\beta = 0.0$
33	16	+ 3 + 1 + 8	0	+ 3 + 11 + 17 + 23	$\alpha = - 3$
46	23	+ 10 + 2 + 23	+ 1		
$\alpha + 6\beta + 41\gamma = 13$		26 61			

Face 4.

15ᵐ interval.	Chronometer-time.	Arc.	Temperature of the— Air.			Pendulum. P_a	P_b	P_c	$1.71A^2$	Sums.	Corrections for— Arc.	Temperature.		Barometer.	Total.
	h. m.	°	°	°	°	°	°	°	s.	° ° °	s.	s.	s.	s.	s.
− 8	5 01.6									25.1+21.8− 1.6	34.1	+ 7.8	−0.2	−0.8	+0.41
		2.92	49.4	48.5	45.9	52.5	51.7	48.2	14.6						
7	16.6									22.6+20.1+ 0.2	19.5	+ 7.1	+0.0	−0.7	+ .26
		2.11	51.2	49.7	47.0	52.9	52.1	48.8	7.6						
6	31.6									19.7+18.0+ 1.4	11.9	+ 6.3	+0.2	−0.6	+ .18
		1.61	52.0	51.2	48.3	53.1	52.6	49.5	4.4						
5	46.6														
		1.20	52.0	51.7	49.2	53.1	52.7	49.9	2.5						
4	6 01.6									13.5+12.7+ 2.0	5.0	+ 4.4	+0.3	−0.4	+ .09
		1.05	52.2	52.2	49.9	53.2	52.9	50.2	1.9						
3	16.6														
		0.90	52.7	52.7	50.3	53.3	53.1	50.5	1.4						
2	31.6														
		0.76	53.2	53.1	50.6	53.4	53.2	50.6	1.0						
− 1	46.6														
		0.63	53.8	53.8	50.9	53.6	53.5	50.7	0.7						
0	7 01.6														
		0.49	54.1	54.1	51.2	53.7	53.6	50.9	0.4						
+ 1	16.6														
		0.43	54.3	54.3	51.6	53.7	53.6	51.1	0.3						
2	31.6														
		0.38	54.4	54.4	52.0	53.8	53.7	51.3	0.2						
3	46.6														
		0.32	54.7	54.7	52.3	53.8	53.8	51.4	0.2						
4	8 01.6									15.0+14.7+ 4.7	1.1	+ 5.0	+0.6	−0.5	+ .06
		0.26	55.0	55.0	52.6	53.9	53.9	51.6	0.1						
5	16.6														
		0.21	55.0	55.0	52.6	54.0	53.9	51.6	0.1						
6	31.6									22.9+22.5+ 7.9	1.3	+ 7.6	+1.1	−0.7	+ .09
		0.18	55.5	55.4	52.5	54.0	54.0	51.6	0.1						
7	46.6									26.9+26.5+ 9.5	1.4	+ 8.9	+1.3	−0.8	+ .11
		0.16	57.2	56.4	52.8	54.4	54.3	51.7	0.0						
+ 8	9 01.6									31.3+30.8+11.2	1.4	+10.4	+1.5	−0.9	+0.12
Mean........			53.5	53.3	50.6										

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd.	Δ
	s.	s.	s.	s.	s.				s.	s.	s.	s.	
− 8	.84	.76	.66	.37	.66	+ 20	+ 41	.27	− 11.43	− 11.67	+ 93.4	− 11.64	− 3
7	.64	.60	.58	.54	.59		+ 26	.85	10.01	10.16	71.1	10.18	+ 2
6	.50	.38	.20	.30	.34		+ 18	.52	8.68	8.77	52.6	8.73	− 4
− 4	.64	.60	.62	.52	.59		+ 9	.68	− 5.84	5.83	23.3	− 5.82	− 1
0	.96	.84	.78	.78	.84			.84		− 0.10			−10
+ 4	.32	.12	.96	.86	.06		− 6	.00	+ 5.84	+ 5.75	23.0	+ 5.82	− 7
6	.28	.16	.26	.82	.13		− 9	.04	8.80	8.71	52.3	8.73	− 2
7	.66	.66	.60	.48	.60		− 11	.49	10.35	10.20	71.4	10.18	+ 2
+ 8	.30	.91	.86	.44	.87	+ 20	− 12	.95	+ 11.89	+ 11.65	+ 93.2	+ 11.64	+ 1
									+ 36.88		+480.3		
									− 35.96		+ 1.455		
									+ 0.92		+139.7 = 24ʰ		
									+ 0.10		− 2.5 = D		
											37.2 = V		

Diff.	½	Δ′	β	γ	Δ″	Corr.	
0	0	− 11	− 2	− 25	+ 1	− 1	Result, $\gamma = + 0.5$
12	6	− 5		− 5		+ 9	$\beta = + 0.2$
34	17	+ 6	+ 1	+ 8	+ 2	+15	$\alpha = -10$
46	23	+ 12	+ 2	+ 23	0	+24	
	11	34		61			

Face 3.

15ᵐ interval.	Chronometer-time.	Arc.	Temperature of the— Air.			Pendulum. P_a	P_b	P_c	$1.71A^2$	Sums.	Corrections for— Arc.	Temperature.		Barometer.	Total.
	h. m.	°	°	°	°	°	°	°	s.	° ° °	s.	s.	s.	s.	s.
− 8	5 01.6	2.70	59.6	56.8	51.4	61.6	59.5	52.2	12.5	98.0+85.2+23.3	31.7	+30.7	+3.1	+0.5	+0.66
7	16.6	2.04	61.1	57.0	51.7	62.0	59.5	52.3	7.1	86.4+75.7+21.1	19.2	+27.1	+3.0	+0.5	+ .50
6	31.6	1.60	62.2	58.8	52.4	62.3	60.1	52.7	4.4	74.4+66.0+18.8	12.1	+23.5	+2.5	+0.4	+ .38
5	46.6	1.30	62.7	61.3	53.3	62.4	61.0	53.2	2.9						
4	6 01.6	1.06	63.0	62.8	53.7	62.5	61.5	53.3	1.9	49.7+44.9+12.9	4.8	+15.8	+1.7	+0.3	+ .23
3	16.6	0.90	62.8	62.3	53.5	62.4	61.3	53.3	1.4						
2	31.6	0.74	62.7	61.8	53.4	62.4	61.1	53.2	0.9						
− 1	46.6	0.59	62.6	61.3	53.3	62.4	61.0	53.1	0.6						
0	7 01.6	0.47	62.4	61.0	53.1	62.3	60.9	53.1	0.4						
+ 1	16.6	0.42	63.2	60.9	52.9	62.5	60.8	52.9	0.3						
2	31.6	0.38	62.1	60.8	52.7	62.2	60.8	52.8	0.2						
3	46.6	0.32	61.9	60.7	52.3	62.2	60.8	52.7	0.2						
4	8 01.6	0.27	62.0	60.8	52.6	62.2	60.8	52.8	0.1	49.2+43.3+11.5	1.1	+15.5	+1.6	+0.3	+ .18
5	16.6	0.23	62.6	61.0	53.8	62.4	60.9	53.4	0.1						
6	31.6	0.18	63.0	61.3	54.3	62.5	61.0	53.6	0.1	73.8+65.0+17.7	1.3	+23.2	+2.4	+0.4	+ .27
7	46.6	0.15	62.6	61.7	55.0	62.4	61.1	54.0	0.0	86.3+76.0+21.3	1.4	+27.2	+2.9	+0.4	+ .32
+ 8	9 01.6									98.7+87.1+25.3	1.4	+31.1	+3.4	+0.5	+0.36
Mean			62.3	60.8	53.1										

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd.	Δ
	s.	s.	s.	s.	s.				s.	s.	s.	s.	
− 8	.36	.31	.01	.86	.14	+ 20	+ 66	.00	− 12.09	− 12.18	+ 97.4	− 12.14	− 4
7	.00	.06	.92	.82	.95		+ 50	.45	10.54	10.59	74.1	10.62	+ 3
6	.62	.62	.58	.52	.58		+ 38	.96	9.05	9.07	54.4	9.10	+ 3
− 4	.98	.88	.68	.62	.79		+ 23	.02	− 6.11	6.07	24.3	− 6.07	0
0	.06	.92	.72	.64	.84	+ 7		.91		− 0.12			−12
+ 4	.22	.20	.02	.86	.08		− 18	.90	+ 6.01	+ 6.03	24.1	+ 6.07	− 4
6	.22	.18	.88	.86	.04		− 27	.77	9.14	9.12	54.7	9.10	+ 2
7	.66	.66	.62	.52	.61		− 32	.29	10.62	10.57	74.0	10.62	− 5
+ 8	.10	.89	.70	.53	.81	+ 22	− 36	.67	+ 12.24	+ 12.15	+ 97.2	+ 12.14	+ 1
									+ 38.01		+500.2		
									− 37.79		+ 1.517		
									+ 0.22		+145.6 = 24ʰ		
									+ 0.02		− 2.5 = D		
											43.1 = V		

Diff.	½	Equations of condition.	Normal equations.	
− 10	− 5	$-8 = -2\beta - 25\gamma$	$27 = 9\beta + 104\gamma$	Result, $\alpha = -12$
+ 9	+ 4	$+1 = \quad - 5\gamma$	$318 = 104\beta + 1243\gamma$	$\beta = +1.5$
+ 8	+ 4	$+1 = +\beta + 8\gamma$		$\gamma = +0.14$
+ 15	+ 8	$+5 = +2\beta + 23\gamma$		
	$+3 = \alpha + 6\beta + 41\gamma$			

Face 2.

15ᵐ interval.	Chronometer-time.	Arc.	Temperature of the— Air.			Pendulum. P_a	P_b	P_c	$1.71A^2$	Sums.	Corrections for— Arc.	Temperature.		Barometer.	Total.
	h. m.	°	°	°	°	°	°	°	*s.*	° ° °	*s.*	*s.*	*s.*	*s.*	*s.*
−10	5 01.6	3.00	62.0	57.3	51.7	64.4	61.3	53.7	15.4	148.9+126.3+46.7	44.8	+46.0	+6.3	+0.7	+0.98
9	16.6	2.38	62.3	58.5	53.2	64.5	61.7	54.4	9.5	134.5+115.0+43.0	29.4	+41.8	+5.8	+0.6	+ .78
8	31.6	1.88	63.0	59.5	54.4	64.6	62.0	55.0	6.1	120.0+103.3+38.6	19.9	+37.3	+5.2	+0.6	+ .63
7	46.6	1.50	63.0	59.5	54.8	64.7	62.0	55.2	3.8						
6	6 01.6	1.22	63.2	59.9	54.8	64.7	62.2	55.2	2.5	90.7+ 79.3+28.4	10.0	+28.5	+3.8	+0.4	+ .43
5	16.6	1.13	63.9	61.8	54.2	64.9	62.8	54.9	2.2						
4	31.6	1.03	64.7	62.7	53.6	65.1	63.1	54.6	1.8						
3	46.6	0.94	65.3	63.9	53.1	65.2	63.5	54.4	1.5						
2	7 01.6	0.83	65.9	64.9	53.1	65.4	63.8	54.3	1.2	30.8+ 27.7+ 9.3	2.0	+ 9.5	+1.3	+0.1	+ .13
−1	16.6	0.69	66.1	65.0	54.5	65.4	63.9	55.0	0.8						
0	31.6	0.55	66.3	65.2	55.8	65.5	63.9	56.3	0.5						
+1	46.6	0.41	66.5	65.3	57.0	65.5	64.0	56.3	0.3						
2	8 01.6	0.31	66.6	65.4	57.9	65.6	64.0	56.7	0.2	31.0+ 27.9+12.6	0.8	+ 9.8	+1.7	+0.1	+ .12
3	16.6	0.27	66.5	65.4	57.9	65.5	64.0	56.8	0.1						
4	31.6	0.23	66.4	65.5	57.8	65.5	64.0	56.7	0.1						
5	46.6	0.19	66.3	65.5	57.8	65.5	64.0	56.7	0.1						
6	9 01.6	0.16	66.3	65.5	57.8	65.5	64.0	56.7	0.0	93.1+ 83.9+39.5	1.3	+29.6	+5.3	+0.4	+ .37
7	16.6	0.15	66.5	65.4	57.9	65.6	64.0	56.8	0.0						
8	31.6	0.12	66.4	65.4	57.9	65.5	64.0	56.8	0.0	124.2+111.9+53.0	1.3	+39.5	+7.2	+0.6	+ .49
9	46.6	0.08	66.1	65.3	58.0	65.4	64.0	56.8	0.0	139.7+125.9+59.8	1.3	+44.4	+8.1	+0.6	+ .54
+10	10 01.6									155.1+139.9+66.6	1.3	+49.4	+9.0	+0.7	+0.60
Mean..........			65.2	63.3	55.6										

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd	Δ
	s.	*s.*	*s.*	*s.*	*s.*				*s.*	*s.*	*s.*	*s.*	
−10	.37	.23	.06	.82	.12	+ 20	+ 98	.30	− 15.15	− 15.37	+ 153.7	− 15.39	+ 2
9	.24	.08	.90	.86	.02		+ 78	.80	13.65	13.83	124.5	13.85	+ 2
8	.78	.70	.56	.50	.63		+ 63	.26	12.11	12.25	98.0	12.31	+ 6
6	.22	.94	.92	.86	.98		+ 43	.41	9.26	9.34	56.0	9.23	−11
−2	.18	.06	.12	.00	.09		+ 13	.22	− 3.07	− 3.08	6.2	− 3.08	− 0
0													
+2	.30	.28	.22	.02	.20		− 12	.08	+ 3.07	+ 3.06	6.1	+ 3.08	− 2
6	.18	.20	.16	.02	.14		− 37	.77	9.38	9.30	55.8	9.23	+ 7
8	.44	.22	.26	.82	.18		− 49	.69	12.46	12.32	98.6	12.31	+ 1
9	.78	.70	.66	.54	.67		− 54	.13	14.02	13.84	124.6	13.85	− 1
+10	.45	.89	.87	.56	.94	+ 22	− 60	.56	+ 15.59	+ 15.37	+ 153.7	+ 15.39	− 2
70									+ 54.52		+ 877.2		
$\Sigma I^2 = 570$									− 53.24		+ 1.539 15ᵐ		
									+ 1.28		+ 147.7 24ʰ		
									+ 0.004		− 2.5 = D		
									fast 0.225		45.2 = V		

Face 1.

15m interval.	Chronometer-time.	Arc.	TEMPERATURE OF THE— Air.			Pendulum. P_a	P_b	P_c	$1.71A^2$	Sums.	CORRECTIONS FOR— Arc.	Temperature.		Barometer.	Total.
	h. m.	°	°	°	°	°	°	°	s.	° ° °	s.	s.	s.	s.	s.
—10	5 01.6									160.2+141.4+ 73.3	34.2	+50.5	+ 9.9	+0.7	+0.95
		2.74	61.1	57.1	51.9	65.2	62.5	55.3	12.8						
9	16.6									145.0+128.9+ 68.0	21.4	+45.9	+ 9.2	+0.6	+ .77
		2.09	62.2	58.7	53.4	65.5	63.0	56.1	7.5						
8	31.6									129.5+115.9+ 61.9	13.9	+41.1	+ 8.4	+0.6	+ .64
		1.65	63.2	60.4	54.6	65.8	63.6	56.6	4.7						
7	46.6														
		1.32	63.7	62.1	55.4	65.9	64.2	57.1	3.0						
6	6 01.6									97.8+ 88.1+ 48.2	6.2	+31.1	+ 6.5	+0.4	+ .44
		1.06	64.1	62.2	56.2	66.0	64.2	57.4	1.9						
5	16.6														
		0.92	64.5	62.8	56.6	66.1	64.4	57.6	1.4						
4	31.6														
		0.80	64.8	63.4	57.1	66.2	64.6	57.9	1.1						
3	46.6														
		0.69	65.2	63.9	57.5	66.5	64.8	58.1	0.8						
2	7 01.6									33.0+ 30.1+ 17.2	1.0	+10.6	+ 2.3	+0.1	+ .14
		0.57	65.8	64.6	58.1	66.4	65.0	58.4	0.6						
— 1	16.6														
		0.48	66.6	65.5	59.0	66.6	65.1	58.8	0.4						
0	31.6														
		0.40	67.5	66.6	59.8	66.8	65.7	59.2	0.3						
+ 1	46.6														
		0.32	68.4	67.5	60.6	67.0	66.0	59.6	0.2						
2	8 01.6									33.8+ 31.7+ 18.8	0.5	+11.0	+ 2.5	+0.1	+ .14
		0.25	69.0	68.2	61.3	67.2	66.2	60.0	0.1						
3	16.6														
		0.20	69.2	68.4	61.5	67.2	66.3	60.1	0.1						
4	31.6														
		0.16	69.4	68.6	61.7	67.3	66.3	60.2	0.0						
5	46.6														
		0.13	69.5	68.8	61.9	67.3	66.4	60.3	0.0						
6	9 01.6									102.8+ 96.9+ 59.4	0.7	+33.5	+ 8.0	+0.4	+ .43
		0.10	69.6	69.0	62.0	67.4	66.5	60.4	0.0						
7	16.6														
		0.09	69.6	69.0	62.0	67.4	66.5	60.3	0.0						
8	31.6									137.6+129.9+ 80.1	0.7	+44.8	+10.8	+0.6	+ .57
		0.08	69.6	69.0	61.9	67.4	66.5	60.3	0.0						
9	46.6									155.0+146.4+ 90.4	0.7	+50.5	+12.2	+0.6	+ .64
		0.08	69.5	69.0	61.6	67.3	66.5	60.1	0.0						
+10	10 01.6									172.3+162.9+106.5	0.7	+56.1	+13.6	+0.7	+ .71
Mean........			66.6	65.2	58.7										

OBSERVED TRANSITS BY SIDEREAL CHRONOMETER A.

I.	R.	L.	R.	L.	Mean.	i	r	Trans.	Interval.	Observed.	Product.	Comput'd.	Δ
	s.	s.	s.	s.	s.				s.	s.	s.	s.	
—10	.64	.57	.39	.36	.49	+ 20	+ 95	.64	— 14.58	— 14.72	+ 147.2	— 14.79	+ 7
9	.60	.56	.44	.38	.49		+ 77	.26	13.20	13.31	119.8	13.31	+ 0
8	.30	.26	.24	.06	.21		+ 64	.85	11.79	11.87	95.0	11.83	— 4
6	.58	.46	.48	.46	.49		+ 44	.93	8.87	8.91	53.5	8.87	— 4
— 2	.00	.98	.72	.76	.86		+ 14	.00	— 2.94	— 2.95	5.9	— 2.96	+ 1
0													
+ 2	.32	.32	.30	.12	.26		— 14	.12	+ 2.94	+ 2.93	5.9	+ 2.96	— 3
6	.56	.66	.36	.54	.53		— 43	.10	8.96	8.92	53.5	8.87	+ 5
8	.82	.72	.58	.56	.67		— 57	.10	11.96	11.88	95.0	11.83	+ 5
9	.54	.40	.22	.18	.34		— 64	.70	13.36	13.25	119.3	13.31	— 6
+10	.91	.68	.56	.37	.63	+ 20	— 71	.12	+ 14.94	+ 14.80	+ 148.0	+ 14.79	+ 1

$\Sigma I^2 = 570$

Interval.	Product.
+ 52.16	+ 843.1
— 51.38	+ 1.479 = 15^m
+ 0.78	+ 142.0 = 24^h
	— 2.5 = D
+ 0.137	39.5 = V

RECAPITULATION OF RESULTS.

ODD FACES.				
March 5	Face 1	V = 86541.2	△ = + 2.2	γ = 0.9
7	3	49.7	− 6.3	0.5
10	3	43.1	+ 0.3	0.1
12	1	39.5	+ 3.9	0.1
		86543.4		
EVEN FACES.				
March 6	Face 2	V = 86544.4	△ = − 2.2	γ = 0.5
8	4	42.2	0.0	0.4
9	4	37.2	+ 5.0	0.5
11	4	45.2	− 3.0	0.2
		86542.2		

Before giving the combined results of the observations made at Polaris Bay and Polaris House, we shall insert the results of some pendulum-experiments made by Mr. Charles A. Schott, which are contained in the following letter addressed to Mr. J. E. Hilgard:

COMPUTING DIVISION, COAST SURVEY, *April* 25, 1871.

DEAR SIR: The following results for number of vibrations (in a mean solar day) were obtained from observations with the Hayes pendulum, made here on six days by myself, assisted by Dr. Walker and Mr. Scott. The reduction was made by Mr. Main.

The method of observation and computation is the same as that given in my discussion of the "Physical Observations in the Arctic Seas, by I. I. Hayes, M. D.," etc., Smithsonian Contributions to Knowledge, Washington, June, 1867. The pendulum is swung in four positions, and the number of vibrations in a mean solar day are referred to a standard temperature (50° Fah.) and to a standard atmospheric pressure (29.8 inches). Each result consists of four sets of eleven transits of ten vibrations each at the beginning, and the same number at the end, of an observation; the intervening time being nearly four hours, during which a number of transits were taken to keep account of the number of vibrations. During any of these four-hour terms, the temperature hardly varied as much as 1°. All possible precautions were taken to insure accuracy. The principal remaining source of error is that of irregularity in the rate of the chronometer. If the correction for rate at the end of four hours is but $\pm 0^s.5$ out, it will make as much as $\pm 3^s$, or nearly ± 3 vibrations, in a day. The accordance of the several results on different days shows that the chronometer could be depended on within half a second. On the first day (April 8), the number of intermediate readings for number of vibrations was found insufficient (for want of assistance in observing); hence two sets were added on April 21 and 22. The six results for "First knife-edge supporting" are of the same weight as the four results for "Opposite knife-edge supporting."

The numbers N, for face 1 and for face 3 (swinging), should theoretically be the same; and after reversing the pendulum, *end for end*, the numbers N′, for faces two and four, also should be the same. In fact, we can regard them as two independent pendulums.

The results compare directly with those deduced by me for Cambridge, Mass., and for Port Foulke, Greenland.

Originally, I had designed to observe four times for each face, but found it too laborious (considering other duties); yet I think the final mean value is sufficiently reliable.

Number of vibrations in a mean solar day of the Hayes pendulum swung at Washington, D. C.

1871.			
First knife-edge.	N	Opposite knife-edge.	N′
Face 1. April 8, a. m	86439.37	Face 2. April 9, a. m	86432.82
11, p. m	86441.67	10, p. m	86431.39
21, a. m	86444.03		
Mean	86441.69	Mean	86432.10
Face 3. April 8, p. m	86442.22	Face 4. April 9, p. m	86433.28
11, a. m	86439.46	10, a. m	86434.73
22, a. m	86444.18		
Mean	86441.95	Mean	86434.00
	86441.82 ± 0.57		86433.05 ± 0.45

Resulting mean number	86437.44 ± 0.37	
Reduction to sea-level	+ .13	
Resulting final number	86437.57	in latitude 38° 53′ 12″

For comparison, we have—

Number at Port Foulke	86550.72	in latitude 78° 17′ 39″

By—

$$\begin{cases} (86437.57)^2 = N^2 [1 + n \sin^2 (38° \ 53' \ 12'')] \\ (86550.72)^2 = N^2 [1 + n \sin^2 (78° \ 17' \ 39'')] \end{cases}$$

we find—

$$N = \text{number of vibrations of the pendulum at the equator} = 86358.5$$

and—

$$n = 0.0046477$$

hence—

$$c = \text{earth's compression} \left(\frac{a-b}{b}\right) = \frac{1}{250}$$

In the latitude of Cambridge (42° 22′ 51″.5), this pendulum ought to make 86449.6 vibrations; but, according to observations, July 3 and 4, 1860, at the Harvard observatory, it did make only 86420.9, showing a deficiency of nearly 29 vibrations a day, owing partly to deviation of local density from the normal, partly to defect in observations, as the results for faces 2 and 4 swinging are not sufficiently accordant; some disturbing influence must also be attributed to the Washington station as well as to the Greenland station, which would alter the constants in the formula.

The combination Cambridge—Port Foulke gave the compression $\frac{1}{372}$; the combination Washington—Port Foulke, $\frac{1}{250}$. The true value lies between, but nearer the latter value. The local deviation in gravity appears, therefore, to affect Washington and Cambridge in the opposite direction, but the latter considerably more than the former. Observations at a greater number of stations will probably bring out the fact that the number of vibrations at Washington are too many, those at Cambridge too few; in other words, force of gravity at Washington greater, and at Cambridge less, than the normal value due to the respective latitudes. The pendulum is now ready for shipping.

Yours, respectfully,

CHAS. A. SCHOTT,
Assistant in the Coast Survey.

J. E. HILGARD,
Assistant in the Coast Survey, in charge of Office.

Although the preceding experiments (at Polaris Bay and Polaris House) were conducted with the utmost care, and the transits accurately recorded, as may be proved by the probable error, not exceeding 0.3 vibrations in one mean solar day, we still did not succeed in getting a satisfactory result by combining our observations with those made with the same pendulum at other stations.

The following table contains the result of the number of vibrations performed by the Hayes pendulum at different stations:

Stations.	Latitude N.	Longitude W.	$\sin^2 \phi$	Vibrations observed.
	°	*h. m.*		
Polaris Bay	81.6	4 9	0.979	86566.6
Polaris House	78.4	4 51	0.960	86542.8
Port Foulke	78.3	4 51	0.959	86550.6
Cambridge	42.4	4 45	0.454	86419.4
Washington	38.9	5 08	0.394	86437.4

A glance at the above table will demonstrate that the value for Cambridge is abnormal, either owing to an unknown local disturbance, or to the excess assumed by Mr. Bond from preliminary observations; for the period of observations was erroneous by an even number of seconds. Mr. Bond's preliminary observations, however, are not published. Assuming that the excess could be increased by the nearest even number of seconds, a revision of Mr. Schott's reductions of the said observations would give 86450.3 vibrations.

At Port Foulke, a similar uncertainty must have occurred, and the result obtained there might easily be brought up to 86568.7 by increasing the observed excess also by the nearest even number of seconds; assuming, besides, the chronometer-rate to be uniform, instead of showing the great irregularities as given there.

If we could assume that, in the course of observations made at Polaris House, R and L had been mistaken in the series marked -4 and $+4$, then the result would come up to 86568.1 vibrations, although with larger residuals, which, nevertheless, show a certain regularity. The latter may be explained by a regular change of temperature, or an acceleration in the rate of the chronometer, or that the knife-edge of the pendulum might have rubbed against the wall of the box in which the pendulum was swung, or that the force of gravity might have a period, or by a combination of some or all the causes mentioned above.

At Polaris Bay, we find the difference between the odd and even faces just contrary to those found at the other stations, indicating that R and L might have been mistaken in the middle series for the odd faces only. Assuming the latter (although this is scarcely the case, another explanation might be found in one of the above causes), we find 86573.6 vibrations, which would make the different results agree far better, not only among themselves, but also in their differences.

Making use of the well-known relation existing between the earth's compression and the number of vibrations performed by the same pendulum in a mean solar day, we obtain the value of the earth's compression to be—

299.5

agreeing closely with Bessel's result, which is—

299.2.

The separate results furnish the following values:

Cambridge—Polaris Bay	1 :	303
Polaris House		298
Port Foulke		301
Washington—Polaris Bay		299
Polaris House		296
Port Foulke		298
	M. =	299.5

MAGNETIC OBSERVATIONS AND LIST OF AURORAS.

1 M O

MAGNETIC OBSERVATIONS.

INTRODUCTORY.

Of an extensive series of magnetic observations, mostly made at the Polaris Bay observatory, only the small number of absolute determinations, of comparatively little value, could be saved, which we propose recording hereafter.

Before doing so, however, we may be permitted to make a few remarks in regard to the mode of observation and on the character of the magnetical phenomena of the said locality, as far as such remarks can be made without drawing from any other source than memory.

A short time after the meteorological and astronomical observatory had been erected, two snow-huts were built (compare ground-plan of the observatory given in the chapter on the "Temperature of the Air"). The easternmost of these huts contained the dip-circle, while the declinometer was mounted in the other; but the regular observations on the variation of declination could not be begun before January, 1872. It was our intention to begin earlier; but a heavy northwest gale, which brought the ship in quite a perilous condition, in November, 1871, carried off the domes of our magnetic huts, on which occasion the declinometer was damaged. This circumstance and the pendulum-observations prevented us from beginning the magnetical observations before the time stated.

After the experiments on vibration had been completed, the declinometer was mounted by Mr. Bryan, and the observations on variation of declination were begun toward the middle of January, 1872. Instead of conducting, however, the observations in the manner proposed in the instructions, which, under the circumstances, would never have yielded any satisfactory results, we preferred to take hourly readings; the observations being made by Messrs. Meyer and Bryan and the writer, each person observing generally for eight hours at a time.

Besides these hourly observations, we observed three term-days every month, according to the Goettingen regulations; one of these term-days corresponding to the day adopted by all the magnetic stations. The observations were kept up till the end of May, when they had to be discontinued, because two of the observers went on the boat-journey toward the north.

As it seems, the maximum west deflection takes place between 4^h and 5^h p. m. and the minimum between 3^h and 4^h a. m., contrary to Port Foulke and Van Rensselaer Harbor, where the maximum occurs at about 1^h p. m. and the minimum near midnight. At Polaris Bay the

West declination 96° and the
Inclination 81° 23′.

During February, 1872, great magnetical disturbances were noticed, amounting in one instance, on the morning of the 4th, to about 9°. Whether these disturbances were due to the approach of the sun to the horizon, or to invisible auroras, is difficult to decide. On February 4, when the greatest disturbance occurred, a very brilliant auroral display was noticed, beginning between 7^h and 8^h p. m., and ending between 5^h and 6^h the next morning. During the time this phenomenon took place, Mr. Bryan was stationed at the magnetometer, having a string tied around his arm, which was carried through the door of the hut to the writer, who observed and recorded the changes of the aurora, both observers being provided with chronometers. Two distinct coronas formed, and, after the disappearance of each, the greatest deflection of the magnet was produced. To give the exact amount of deflection is beyond our means.

The few absolute determinations given hereafter were mostly made with two prismatic compasses (counting from S. through E.), manufactured by James Green, New York, and by L. Casella, London. The greatest portion was obtained by Mr. Bryan; and, whenever the name of no other observer is stated, the determination was made by him.

Observations and results of magnetic declinations.

HALL'S LAND—FIRST CAMP.

OCTOBER 11, 1871.—C. F. HALL, *Observer.*

Hall's watch.	Sun's magn. bearings.
$2^h\ 37^m$	N. 39°.5 W.
2 43	N. 38°.5 W.

Resulting magnetic declination = 95° W.

HALL'S LAND.

OCTOBER 12, 1871.—C. F. HALL, *Observer.*

Hall's watch.	Sun's magn. bearings.
$11^h\ 32^m$	N. 83°.5 W.
11 38	82
11 45	81
1 45	51
1 52	N. 49° W.

Resulting magnetic declination = 97°.1 W.

HALL'S LAND.

OCTOBER 13, 1871.—C. F. HALL, *Observer.*

Hall's watch.	Sun's magn. bearings.
$11^h\ 56^m$	N. 29° W.
0 06	N. 77° W.

Resulting magnetic declination = 96° W.

HALL'S LAND.

$\phi = 82° 0'.5$

OCTOBER 19, 1871.—C. F. HALL, *Observer.*

Hall's watch.	♃ magn. bearings.
$6^h\ 25^m$	N. 65° W.
7 07	61
7 19	N. 58° W.

Watch slow on local time 11^m from altitudes of ♃.
Resulting magnetic declination = 100°.6 W.

HALL'S LAND.

$\phi = 81° 39'$

OCTOBER 23, 1871.—C. F. HALL, *Observer.*

Hall's watch.	♃ magn. bearings.
$5^h\ 57^m$	N. 77° W.
6 09	74
6 38	N. 67° W.

Watch slow on local time 20^m by altitudes of ♃.
Resulting magnetic declination = 97° W.

KENNEDY CHANNEL.

$\phi = 80° 2'$ $\lambda = + 4^h\ 35^m$

AUGUST 16, 1872.—F. MEYER, *Observer.**

Chronometer F.	Sun's magn. bearing.
$6^h\ 31^m\ 35^s$	S. 18° 15' W.

F fast $16^m.6$.
Resulting magnetic declination = 107° 57' 44'' W.

SMITH SOUND.

$\phi = 79° 43'$ $\lambda = + 4^h\ 37^m$

AUGUST 18, 1872.—F. MEYER, *Observer.*

Chronometer F.	Sun's magn. bearing.
$6^h\ 41^m\ 40^s$	S. 19° 40' W.

F fast $18^m.7$.
Resulting magnetic declination = 107° 39' 26'' W.

SMITH SOUND.

$\phi = 79° 36'$ $\lambda = + 4^h\ 32^m$

AUGUST 24, 1872.—F. MEYER, *Observer.*

Chronometer F.	Sun's magn. bearing.
$6^h\ 35^m\ 12^s$	S. 18° 50' W.

F fast $14^m.7$.
Resulting magnetic declination = 107° 48' 52'' W.

SMITH SOUND.

$\phi = 79° 36'$ $\lambda = + 4^h\ 35^m$

SEPTEMBER 5, 1872.

Chronometer H.	Sun's magn. bearings.
$12^h\ 32^m\ 30^s$	N. 167°.5 E.
12 40 30	168°.9
12 48 30	N. 170°.2 E.

H fast $8^h\ 41^m.6$.
Resulting magnetic declination = 107°.2 W.

SMITH SOUND.

$\phi = 79° 35'$ $\lambda = + 4^h\ 36^m$

SEPTEMBER 6, 1872.

Chronometer H.	Sun's magn. bearings.
$12^h\ 41^m\ 00^s$	N. 168°.4 E.
12 49 00	170
12 56 00	N. 171°.7 E.

H fast $8^h\ 41^m.9$.
Resulting magnetic declination = 106°.5 W.

SMITH SOUND.

$\phi = 79° 30'$ $\lambda = + 4^h\ 37^m$

SEPTEMBER 8, 1872.

Chronometer H.	Sun's magn. bearings.
$12^h\ 59^m$	N. 172° E.
13 08	173°.6
13 17	N. 175° E.

H fast $8^h\ 42^m.7$.
Resulting magnetic declination = 105°.3 W.

SMITH SOUND.

$\phi = 79° 21'$ $\lambda = + 44^h\ 40^m$

SEPTEMBER 14, 1872.

Chronometer H.	Sun's magn. bearings.
$12^h\ 15^m\ 30^s$	N. 160.6 E.
12 23 30	N. 162.8 E.

H fast $8^h\ 46^m.5$.
Resulting magnetic declination = 106°.3 W.

SMITH SOUND.

$\phi = 79° 12'$ $\lambda = + 4^h\ 42^m$.

SEPTEMBER 25, 1872.

Chronometer H.	Sun's magn. bearing.
$11^h\ 52^m$	N. 150°.4 E.

H fast $8^h\ 50^m.4$.
Resulting magnetic declination = 102°.6 W.

SMITH SOUND.

VAN RENSSELAER HARBOR OBSERVATORY, MAY 15, 1873.

Chronometer H.	Sun's magn. bearings.
$18^h\ 24^m\ 0^s$	S. 9°.6 W.
18 33 0	11°.0
19 04 0	17°.5
19 14 0	S. 18°.5 W.

H slow $10^h\ 41^m.6$.
Resulting magnetic declination = 106°.5 W.

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* This and the two following observations, together with the resulting declinations, were extracted from the Annual Report of the Chief Signal Officer for the year 1873, pp. 1020 and 1021.

Observations and results of magnetic declinations—Continued.

SMITH SOUND.

PORT FOULKE OBSERVATORY, MAY 28, A. M.

Chronometer H.	Sun's magn. bearings.
$24^h\ 19^m\ 0^s$	S. 249°.6 W.
24 27 0	250°.6
24 32 0	251°.4
24 38 0	S. 252°.4 W.

H fast $3^h\ 7^m.2$.

Resulting magnetic declination = 113°.5 W.

SMITH SOUND.

PORT FOULKE OBSERVATORY, MAY 28, P. M.

Chronometer H.	Sun's magn. bearings.
$9^h\ 18^m\ 00^s$	S. 25°.1 W.
9 28 00	27°.5
9 41 00	30°.2
9 50 16	S. 32°.5 W.

Resulting magnetic declinations = 107°.0 W.

Mean = 110°.3 W.

It will be noticed that the magnetic declination derived from the a. m. observations is 6°.5 greater than that derived from the observations made during the afternoon, which fact must evidently be attributed to some sudden local disturbance. According to Schott, the mean diurnal range at this station amounts to 42′ only; the maximum west deflection of the needle taking place at about 1^h p. m. A similar anomaly may be noticed in the two following sets taken at Polaris House, where again the declination was found to be greater during the morning than during the afternoon; the observations were, however, not made on the same day. It seems that disturbances of this kind are not of rare occurrence; for early in March, 1873, when taking magnetic bearings from the ends of a base-line measured near Polaris House, the writer experienced repeatedly sudden changes in the deflection of the needle, amounting in one instance to more than 5°.

SMITH SOUND.

POLARIS HOUSE, MAY 31, 1873.

Chronometer H.	Sun's magn. bearings.
$9^h\ 30^m\ 0^s$	S. 28°.8 W.
9 37 0	S. 30°.4 W.

H fast $3^h\ 7^m.4$.

Resulting magnetic declination = 107°.6 W.

SMITH SOUND.

POLARIS HOUSE, JUNE 1, 1873.

Chronometer H.	Sun's magn. bearings.
$21^h\ 07^m\ 00^s$	S. 197°.7 W.
21 21 20	201°.4
21 31 00	205°.0
21 39 00	206°.4
21 49 00	S. 207°.6 W.

H fast $3^h\ 7^m.5$.

Resulting magnetic declination = 114°.9 W.

Mean = 111°.3.

WHALE SOUND.

NORTHUMBERLAND ISLAND.

$\varphi = 77°\ 19'$ $\lambda = +4^h\ 47^m$

JUNE 10, 1873.

Chronometer H.	Sun's magn. bearing.
$2^h\ 26^m$	S. 275°.5 W.

H fast $3^h\ 3^m.4$.

Resulting magnetic declination = 104°.9 W.

MELVILLE BAY.

CONICAL ROCK.

$\varphi = 76°\ 2'$ $\lambda = +4^h\ 3^m$

JUNE 18, 1873.

Chronometer H.	Sun's magn. bearings.
$14^h\ 36^m$	S. 74°.5 W.
15 14	S. 87°.3 W.

Resulting magnetic declination = 100°.3 W.

Auroras observed at Polaris Bay.

Date.	Time.	Remarks.
Dec. 17, 1871	1^h p. m.	Streamers of luminous clouds from SW. to NE.
	6 p. m.	Streamers of luminous clouds near the eastern horizon.
Dec. 18, 1871	1 a. m.	Arch of luminous clouds extending from S. to N.
	8 a. m.	Arch of luminous clouds from E. to N.
Jan. 4, 1872	10 a. m.	Luminous arch extending from NE. to SW.
	11 a. m.	Same arch still visible, but quite faint.
Jan. 6, 1872	3 p. m.	Luminous arch from NE. to SW.
	4 p. m.	Same arch still visible.
Jan. 7, 1872	8 a. m.	Arch of luminous clouds from NW. to SE.
	9 a. m.	Same arch remains visible.
Jan. 8, 1872	11 p. m.	Faint luminous streamers near eastern horizon.
Jan. 11, 1872	11 a. m.	Luminous streamers issuing from a long, dark stratus cloud, above the twilight arch; similar streamers near the northern horizon.
	Noon.	Streamers disappeared; luminous arch stretching from N. to S.
	1^h p. m.	Same arch still visible; shifted its position to NE. and SW.
Jan. 12, 1872	10 a. m.	Luminous streamers above the twilight arch and on the horizon opposite.
Jan. 13, 1872	10 a. m.	Luminous streamers issuing from the twilight arch; similar streamers visible near the horizon opposite.
	11 a. m.	Faint streamers near the NE. horizon.
Jan. 14, 1872	10^h a. m.	Dark streamers of clouds above the twilight arch, of the same form as the luminous ones frequently seen.
	8 p. m.	Luminous streamers to NW and SE.
	11 p. m.	Top of cloud-bank luminous, NE.
Jan. 30, 1872	4 p. m.	Faint luminous streamers from NE. to SW.
	5 p. m.	Two bright streamers NE.
Feb. 5, 1872	3 a. m.	Luminous streamers visible toward NE., E., and SE., remaining visible till 5^h a. m.
	6 a. m.	Luminous streamers issuing from twilight arch.
Feb. 6, 1872	8 p. m.	One bright streamer visible NE.
Feb. 7, 1872	1 a. m.	Bright streamers NE. by E.
	3 a. m.	Faint luminous streamers E.
	3 p. m.	Do.
Feb. 8, 1872	2 a. m.	Bright streamers W. by N.; faint ones visible toward the east. Both undergo rapid changes.
	3 a. m.	Faint streamers from W. to SW.; arch of luminous vapor from NE. to SW.
	4 a. m.	Arch of thick luminous vapor from E. to W.
	5 p. m.	Bright luminous arch passing from NE to SW. through the zenith.
	7 p. m.	Mass of luminous vapor extending from NE. to E.
	8 p. m.	A few luminous streamers visible S. by E.
Feb. 14, 1872	5 a. m.	Faint streamers visible W.
Mar. 7, 1872	10 p. m.	Faint luminous streamers SE. by E.
	11 p. m.	Faint luminous streamers S. by E.
Mar. 8, 1872	1 a. m.	Irregular luminous arch passing from S. to N. through the zenith.

Auroras observed at Polaris House.

Nov. 10, 1872	4^h p. m.	Faint luminous arch extending from NE. to SW.
Dec. 2, 1872	9 p. m.	Bright streamers extending from S. by E. to WSW.
	11 p. m.	Luminous arch extending from N. to S.
Dec. 24, 1872	1 a. m.	A few streamers of a yellowish red visible toward the S.
Jan. 19, 1873	3 p. m.	Faint luminous streamers changing rapidly in length from E. to E. by S.
Jan. 23, 1873	1 a. m.	Faint streamers S. by E.
	5 a. m.	Faint auroral clouds and streamers from NE. to NW.
Jan. 25, 1873	1 a. m.	Faint auroral streamers SE.
Feb. 15, 1873	7 p. m.	Auroral streamers SE.

PSYCHROMETRICAL TABLES,

GIVING,

IN ENGLISH INCHES OF MERCURY,

THE ELASTIC FORCE OF VAPOR CONTAINED IN THE AIR,

ITS RELATIVE HUMIDITY IN HUNDREDTHS,

AND ITS DEW-POINT.

INTRODUCTORY.

Inasmuch as it devolved upon us to reduce about 18,000 psychrometrical observations, most of which were taken at temperatures far below the freezing-point, the want of useful tables became very noticeable. There are extant certainly very satisfactory collections of tables, *e. g.*, those prepared by A. Guyot,[1] Moritz,[2] and Glaisher;[3] but they were not found to answer our purpose. As our observations were mostly taken at low temperatures, Guyot's tables would have been of no service, unless laborious interpolation had been made, occupying a great deal of time, because the horizontal differences there given amount to **0°.5** F., and the vertical to **1°.0** F. Moritz's tables, specially calculated for low temperatures, are given in degress of Celsius; and, as all our observations were registered from instruments provided with Fahrenheit's scale, it would have cost much time and labor had we attempted to convert our readings into centigrades. We felt some hesitation to use Glaisher's tables, because they are based upon empirical factors, and do not furnish as accurate results as they would had Regnault's constants been used in their calculation.

For these reasons, we considered it necessary to construct the following tables, primarily for our own use. We offer them hereby, however, for others that may be following the same line of observations, in order to save the time and trouble that would be required for another calculation. The tables are based upon Regnault's constants,[4] and furnish, by inspection, Relative Humidity, Force of Vapor, and Dew-Point for each tenth of a degree. No further explanation as to their use is required. We will only state that the values were mostly calculated from **0°.2** to **0°.2**, and the alternating ones were interpolated.

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[1] Tables, Meteorological and Physical, prepared for the Smithsonian Institution by Arnold Guyot. Washington: Smithsonian Institution. 1859.

[2] Psychrometrical Table, by James Glaisher, contained in Guyot's Tables, p. 102.

[3] МЕТЕОРОЛОГИЧЕСКІЯ ВСПОМОГАТЕЛЬНЫЯ ТАБЛИЦЫ. А Морицъ. ТИФЛИСЪ. 1868.

[4] *V. Regnault.* Études sur l'hygrométrie. Annales de chimie et de physique, 3me série, tome XV, p. 129.

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+32°.0	......	**0.1811**	......	98.9	**0.1799**	31.9	97.8	**0.1787**	31.7	96.8	**0.1776**	31.6	95.8	**0.1764**	31.4
31.9	......	**0.1804**	......	98.9	**0.1792**	31.8	97.8	**0.1780**	31.6	96.8	**0.1769**	31.5	95.8	**0.1757**	31.3
8	......	**0.1797**	......	98.9	**0.1785**	31.7	97.8	**0.1772**	31.5	96.8	**0.1761**	31.4	95.8	**0.1749**	31.2
7	......	**0.1789**	......	98.9	**0.1777**	31.6	97.8	**0.1765**	31.4	96.8	**0.1754**	31.3	95.8	**0.1742**	31.1
6	......	**0.1782**	......	98.9	**0.1769**	31.5	97.8	**0.1757**	31.3	96.8	**0.1746**	31.2	95.8	**0.1735**	31.0
5	......	**0.1774**	......	98.9	**0.1762**	31.4	97.8	**0.1750**	31.2	96.8	**0.1739**	31.1	95.8	**0.1727**	30.9
4	......	**0.1767**	......	98.9	**0.1755**	31.3	97.8	**0.1742**	31.1	96.8	**0.1731**	31.0	95.8	**0.1720**	30.8
3	......	**0.1759**	......	98.9	**0.1747**	31.2	97.8	**0.1734**	31.0	96.8	**0.1724**	30.9	95.8	**0.1712**	30.7
2	......	**0.1752**	......	98.9	**0.1740**	31.1	97.8	**0.1727**	30.9	96.8	**0.1716**	30.8	95.8	**0.1705**	30.6
1	......	**0.1744**	......	98.9	**0.1732**	31.0	97.8	**0.1720**	30.8	96.8	**0.1709**	30.7	95.8	**0.1697**	30.5
0	......	**0.1737**	......	98.9	**0.1725**	30.9	97.8	**0.1713**	30.7	96.8	**0.1702**	30.6	95.7	**0.1690**	30.4
+30.9	......	**0.1730**	......	98.9	**0.1718**	30.8	97.8	**0.1706**	30.6	96.8	**0.1695**	30.5	95.7	**0.1683**	30.3
8	......	**0.1723**	......	98.9	**0.1711**	30.7	97.8	**0.1699**	30.5	96.8	**0.1688**	30.4	95.7	**0.1676**	30.2
7	......	**0.1716**	......	98.9	**0.1704**	30.6	97.8	**0.1692**	30.4	96.8	**0.1681**	30.3	95.7	**0.1669**	30.1
6	......	**0.1709**	......	98.9	**0.1697**	30.5	97.8	**0.1685**	30.3	96.8	**0.1674**	30.2	95.7	**0.1662**	30.0
5	......	**0.1702**	......	98.9	**0.1690**	30.4	97.8	**0.1678**	30.2	96.8	**0.1667**	30.1	95.7	**0.1655**	29.9
4	......	**0.1695**	......	98.9	**0.1683**	30.3	97.8	**0.1671**	30.1	96.8	**0.1660**	30.0	95.7	**0.1618**	29.8
3	......	**0.1688**	......	98.9	**0.1676**	30.2	97.8	**0.1664**	30.0	96.8	**0.1653**	29.9	95.7	**0.1641**	29.7
2	......	**0.1681**	......	98.9	**0.1669**	30.1	97.8	**0.1657**	29.9	96.8	**0.1616**	29.8	95.7	**0.1634**	29.6
1	......	**0.1674**	......	98.9	**0.1662**	30.0	97.8	**0.1650**	29.8	96.8	**0.1639**	29.7	95.7	**0.1627**	29.5
0	......	**0.1666**	......	98.9	**0.1654**	29.9	97.8	**0.1642**	29.7	96.7	**0.1631**	29.6	95.6	**0.1619**	29.4
+29.9	......	**0.1659**	......	98.9	**0.1647**	29.8	97.8	**0.1635**	29.6	96.7	**0.1624**	29.5	95.6	**0.1612**	29.3
8	......	**0.1652**	......	98.9	**0.1640**	29.7	97.8	**0.1628**	29.5	96.7	**0.1617**	29.4	95.6	**0.1605**	29.2
7	......	**0.1645**	......	98.9	**0.1633**	29.6	97.8	**0.1622**	29.4	96.7	**0.1610**	29.3	95.6	**0.1598**	29.1
6	......	**0.1639**	......	98.9	**0.1627**	29.5	97.8	**0.1615**	29.3	96.7	**0.1604**	29.2	95.6	**0.1592**	29.0
5	......	**0.1632**	......	98.9	**0.1621**	29.4	97.8	**0.1609**	29.2	96.7	**0.1597**	29.1	95.6	**0.1585**	28.9
4	......	**0.1625**	......	98.9	**0.1614**	29.3	97.8	**0.1602**	29.1	96.7	**0.1590**	29.0	95.6	**0.1578**	28.8
3	......	**0.1618**	......	98.9	**0.1607**	29.2	97.8	**0.1595**	29.0	96.7	**0.1583**	28.9	95.6	**0.1571**	28.7
2	......	**0.1611**	......	98.9	**0.1600**	29.1	97.8	**0.1588**	28.9	96.7	**0.1576**	28.8	95.6	**0.1564**	28.6
1	......	**0.1604**	......	98.9	**0.1593**	29.0	97.8	**0.1581**	28.8	96.7	**0.1569**	28.7	95.6	**0.1557**	28.5
0	......	**0.1597**	......	98.9	**0.1586**	28.9	97.7	**0.1574**	28.7	96.6	**0.1562**	28.6	95.5	**0.1550**	28.4

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+32°.0	94.8	**0.1752**	31.2	93.7	**0.1740**	31.0	92.9	**0.1729**	30.9	91.7	**0.1717**	30.7	90.7	**0.1693**	30.6
31.9	94.8	**0.1745**	31.1	93.7	**0.1733**	30.9	92.9	**0.1722**	30.8	91.6	**0.1710**	30.6	90.7	**0.1686**	30.5
8	94.8	**0.1737**	31.0	93.7	**0.1726**	30.8	92.9	**0.1715**	30.7	91.6	**0.1703**	30.5	90.6	**0.1679**	30.4
7	94.8	**0.1730**	30.9	93.7	**0.1720**	30.7	92.9	**0.1707**	30.6	91.6	**0.1695**	30.4	90.6	**0.1671**	30.3
6	94.8	**0.1722**	30.8	93.7	**0.1713**	30.6	92.8	**0.1700**	30.5	91.6	**0.1688**	30.3	90.6	**0.1664**	30.2
5	94.8	**0.1715**	30.7	93.7	**0.1706**	30.5	92.8	**0.1692**	30.4	91.6	**0.1680**	30.2	90.6	**0.1656**	30.1
4	94.8	**0.1707**	30.6	93.7	**0.1699**	30.4	92.8	**0.1685**	30.3	91.5	**0.1673**	30.1	90.6	**0.1649**	30.0
3	94.8	**0.1699**	30.5	93.7	**0.1692**	30.3	92.7	**0.1677**	30.2	91.5	**0.1665**	30.0	90.5	**0.1641**	29.9
2	94.8	**0.1692**	30.4	93.7	**0.1685**	30.2	92.7	**0.1670**	30.1	91.5	**0.1658**	29.9	90.5	**0.1634**	29.8
1	94.8	**0.1685**	30.3	93.7	**0.1678**	30.1	92.7	**0.1662**	30.0	91.5	**0.1650**	29.8	90.5	**0.1626**	29.7
0	94.7	**0.1678**	30.2	93.6	**0.1671**	30.0	92.6	**0.1655**	29.9	91.5	**0.1643**	29.7	90.5	**0.1619**	29.6
+30.9	94.7	**0.1671**	30.1	93.6	**0.1664**	29.9	92.6	**0.1647**	29.8	91.5	**0.1635**	29.6	90.5	**0.1611**	29.4
8	94.7	**0.1664**	30.0	93.6	**0.1656**	29.8	92.6	**0.1640**	29.7	91.5	**0.1628**	29.5	90.5	**0.1604**	29.3
7	94.7	**0.1657**	29.9	93.6	**0.1649**	29.7	92.6	**0.1633**	29.6	91.4	**0.1621**	29.4	90.5	**0.1597**	29.2
6	94.7	**0.1650**	29.8	93.6	**0.1641**	29.6	92.6	**0.1626**	29.5	91.4	**0.1614**	29.3	90.5	**0.1590**	29.1
5	94.6	**0.1643**	29.7	93.5	**0.1634**	29.5	92.5	**0.1619**	29.4	91.4	**0.1607**	29.2	90.4	**0.1583**	29.0
4	94.6	**0.1636**	29.6	93.5	**0.1626**	29.4	92.5	**0.1612**	29.3	91.4	**0.1600**	29.1	90.4	**0.1576**	28.9
3	94.6	**0.1629**	29.5	93.5	**0.1619**	29.3	92.5	**0.1605**	29.2	91.4	**0.1593**	29.0	90.4	**0.1569**	28.8
2	94.6	**0.1622**	29.4	93.5	**0.1611**	29.2	92.5	**0.1598**	29.1	91.3	**0.1586**	28.8	90.4	**0.1562**	28.7
1	94.6	**0.1614**	29.3	93.5	**0.1603**	29.1	92.4	**0.1591**	29.0	91.3	**0.1579**	28.7	90.4	**0.1555**	28.6
0	94.5	**0.1607**	29.2	93.4	**0.1595**	29.0	92.4	**0.1584**	28.8	91.3	**0.1572**	28.6	90.3	**0.1548**	28.5
+29.9	94.5	**0.1600**	29.1	93.4	**0.1589**	28.9	92.4	**0.1578**	28.7	91.3	**0.1566**	28.5	90.3	**0.1542**	28.4
8	94.5	**0.1593**	29.0	93.4	**0.1582**	28.8	92.4	**0.1571**	28.6	91.3	**0.1559**	28.4	90.3	**0.1535**	28.3
7	94.5	**0.1586**	28.9	93.4	**0.1575**	28.7	92.4	**0.1564**	28.5	91.2	**0.1552**	28.3	90.3	**0.1528**	28.2
6	94.5	**0.1580**	28.8	93.4	**0.1568**	28.6	92.3	**0.1557**	28.4	91.2	**0.1545**	28.2	90.3	**0.1521**	28.1
5	94.5	**0.1573**	28.7	93.3	**0.1561**	28.5	92.3	**0.1550**	28.3	91.2	**0.1538**	28.1	90.3	**0.1514**	28.0
4	94.5	**0.1566**	28.6	93.3	**0.1554**	28.4	92.3	**0.1543**	28.2	91.2	**0.1531**	28.0	90.2	**0.1507**	27.8
3	94.5	**0.1559**	28.5	93.3	**0.1547**	28.3	92.2	**0.1536**	28.1	91.1	**0.1524**	27.9	90.2	**0.1500**	27.7
2	94.5	**0.1552**	28.4	93.3	**0.1540**	28.2	92.2	**0.1529**	28.0	91.1	**0.1517**	27.8	90.1	**0.1493**	27.6
1	94.5	**0.1545**	28.3	93.3	**0.1533**	28.1	92.2	**0.1522**	27.9	91.1	**0.1510**	27.7	90.1	**0.1486**	27.5
0	94.4	**0.1538**	28.1	93.2	**0.1526**	27.9	92.1	**0.1515**	27.8	91.0	**0.1503**	27.6	90.0	**0.1479**	27.4

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.			1°.1			1°.2			1°.3			1°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+32°.0	89.7	0.1693	30.4	88.7	0.1681	30.2	87.7	0.1669	30.0	86.7	0.1658	29.9	85.8	0.1646	29.7
31.9	89.7	0.1686	30.3	88.7	0.1673	30.1	87.7	0.1661	29.9	86.7	0.1650	29.7	85.8	0.1638	29.5
8	89.7	0.1678	30.2	88.7	0.1665	30.0	87.7	0.1653	29.8	86.7	0.1642	29.6	85.7	0.1631	29.4
7	89.7	0.1671	30.1	88.7	0.1658	29.9	87.6	0.1646	29.7	86.7	0.1635	29.5	85.7	0.1624	29.3
6	89.7	0.1664	30.0	88.6	0.1651	29.8	87.6	0.1639	29.6	86.6	0.1628	29.4	85.7	0.1617	29.2
5	89.6	0.1656	29.9	88.6	0.1644	29.7	87.6	0.1632	29.5	86.6	0.1621	29.3	85.6	0.1610	29.1
4	89.6	0.1649	29.8	88.6	0.1637	29.6	87.5	0.1625	29.4	86.6	0.1614	29.2	85.6	0.1603	29.0
3	89.6	0.1641	29.7	88.6	0.1630	29.5	87.5	0.1618	29.3	86.6	0.1607	29.1	85.6	0.1596	28.9
2	89.6	0.1634	29.6	88.6	0.1623	29.4	87.5	0.1611	29.2	86.6	0.1600	29.0	85.5	0.1589	28.8
1	89.6	0.1626	29.5	88.6	0.1615	29.3	87.4	0.1604	29.1	86.5	0.1593	28.9	85.5	0.1581	28.7
0	89.5	0.1619	29.3	88.5	0.1608	29.2	87.4	0.1596	29.0	86.5	0.1585	28.8	85.5	0.1573	28.6
+30.9	89.5	0.1611	29.2	88.5	0.1600	29.0	87.4	0.1588	28.8	86.5	0.1577	28.7	85.4	0.1565	28.5
8	89.5	0.1604	29.1	88.5	0.1593	28.9	87.3	0.1581	28.7	86.4	0.1570	28.6	85.4	0.1558	28.4
7	89.4	0.1597	29.0	88.4	0.1586	28.8	87.3	0.1574	28.6	86.4	0.1563	28.5	85.4	0.1551	28.3
6	89.4	0.1590	28.9	88.4	0.1579	28.7	87.3	0.1567	28.5	86.4	0.1556	28.4	85.3	0.1544	28.2
5	89.4	0.1583	28.8	88.4	0.1572	28.6	87.2	0.1560	28.4	86.3	0.1549	28.3	85.3	0.1537	28.1
4	89.3	0.1576	28.7	88.3	0.1565	28.5	87.2	0.1553	28.3	86.3	0.1542	28.2	85.3	0.1530	28.0
3	89.3	0.1569	28.6	88.3	0.1558	28.4	87.2	0.1546	28.2	86.3	0.1535	28.1	85.2	0.1523	27.9
2	89.3	0.1562	28.5	88.3	0.1551	28.3	87.1	0.1539	28.1	86.2	0.1528	28.0	85.2	0.1516	27.8
1	89.2	0.1555	28.4	88.2	0.1544	28.2	87.1	0.1532	28.0	86.2	0.1521	27.9	85.2	0.1509	27.7
0	89.2	0.1548	28.3	88.2	0.1537	28.1	87.1	0.1525	27.9	86.1	0.1514	27.8	85.1	0.1502	27.6
+29.9	89.2	0.1542	28.1	88.1	0.1531	27.9	87.0	0.1519	27.7	86.1	0.1508	27.6	85.1	0.1496	27.4
8	89.1	0.1535	28.0	88.1	0.1524	27.8	87.0	0.1512	27.6	86.1	0.1501	27.5	85.1	0.1489	27.3
7	89.1	0.1528	27.9	88.0	0.1517	27.7	87.0	0.1505	27.5	86.0	0.1494	27.4	85.0	0.1482	27.2
6	89.1	0.1521	27.8	88.0	0.1510	27.6	86.9	0.1498	27.4	86.0	0.1487	27.3	85.0	0.1475	27.1
5	89.0	0.1514	27.7	87.9	0.1503	27.5	86.9	0.1491	27.3	85.9	0.1480	27.2	84.9	0.1468	27.0
4	89.0	0.1507	27.6	87.9	0.1496	27.4	86.9	0.1484	27.2	85.9	0.1473	27.1	84.9	0.1461	26.9
3	89.0	0.1500	27.5	87.9	0.1489	27.3	86.8	0.1477	27.1	85.8	0.1466	27.0	84.8	0.1454	26.8
2	88.9	0.1493	27.4	87.8	0.1482	27.2	86.8	0.1470	27.0	85.8	0.1459	26.9	84.8	0.1447	26.7
1	88.9	0.1486	27.3	87.8	0.1475	27.1	86.8	0.1463	26.9	85.7	0.1452	26.8	84.7	0.1440	26.6
0	88.9	0.1479	27.2	87.8	0.1468	27.0	86.7	0.1457	26.8	85.7	0.1446	26.7	84.7	0.1433	26.5

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.5			1°.6			1°.7			1°.8			1°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+32°.0	84.8	**0.1634**	29.5	83.9	**0.1622**	29.4	82.9	**0.1610**	29.2	82.0	**0.1599**	29.0	81.0	**0.1587**	28.8
31.9	84.8	**0.1626**	29.4	83.9	**0.1614**	29.3	82.9	**0.1602**	29.1	82.0	**0.1591**	28.9	81.0	**0.1580**	28.7
8	84.8	**0.1618**	29.3	83.9	**0.1606**	29.2	82.9	**0.1595**	29.0	82.0	**0.1584**	28.7	81.0	**0.1572**	28.6
7	84.7	**0.1610**	29.2	83.8	**0.1599**	29.1	82.8	**0.1588**	28.9	81.9	**0.1577**	28.6	80.9	**0.1564**	28.5
6	84.7	**0.1602**	29.1	83.8	**0.1592**	29.0	82.8	**0.1581**	28.8	81.9	**0.1570**	28.5	80.9	**0.1557**	28.4
5	84.7	**0.1594**	29.0	83.8	**0.1585**	28.9	82.8	**0.1574**	28.7	81.9	**0.1563**	28.4	80.9	**0.1550**	28.3
4	84.6	**0.1586**	28.9	83.7	**0.1578**	28.8	82.7	**0.1567**	28.6	81.8	**0.1556**	28.3	80.8	**0.1543**	28.2
3	84.6	**0.1578**	28.8	83.7	**0.1571**	28.7	82.7	**0.1560**	28.5	81.8	**0.1549**	28.2	80.8	**0.1536**	28.1
2	84.6	**0.1572**	28.7	83.7	**0.1564**	28.6	82.7	**0.1553**	28.4	81.7	**0.1543**	28.1	80.7	**0.1529**	28.0
1	84.5	**0.1567**	28.6	83.6	**0.1557**	28.5	82.6	**0.1546**	28.3	81.7	**0.1535**	28.0	80.7	**0.1523**	27.9
0	84.5	**0.1562**	28.5	83.6	**0.1550**	28.3	82.6	**0.1538**	28.1	81.6	**0.1527**	27.9	80.6	**0.1515**	27.8
+30.9	84.5	**0.1554**	28.3	83.5	**0.1542**	28.1	82.5	**0.1530**	27.9	81.6	**0.1519**	27.7	80.6	**0.1507**	27.6
8	84.4	**0.1546**	28.2	83.5	**0.1534**	28.0	82.5	**0.1522**	27.8	81.5	**0.1511**	27.6	80.5	**0.1499**	27.4
7	84.4	**0.1539**	28.1	83.4	**0.1527**	27.9	82.4	**0.1515**	27.7	81.5	**0.1504**	27.5	80.5	**0.1493**	27.3
6	84.4	**0.1532**	28.0	83.4	**0.1520**	27.8	82.4	**0.1508**	27.6	81.4	**0.1497**	27.4	80.4	**0.1486**	27.2
5	84.3	**0.1525**	27.9	83.3	**0.1513**	27.7	82.3	**0.1501**	27.5	81.4	**0.1490**	27.3	80.4	**0.1479**	27.1
4	84.3	**0.1518**	27.8	83.3	**0.1506**	27.6	82.3	**0.1494**	27.4	81.3	**0.1483**	27.2	80.3	**0.1472**	27.0
3	84.3	**0.1511**	27.7	83.2	**0.1499**	27.5	82.2	**0.1487**	27.3	81.3	**0.1476**	27.1	80.3	**0.1465**	26.9
2	84.2	**0.1504**	27.6	83.2	**0.1492**	27.4	82.2	**0.1480**	27.2	81.2	**0.1469**	27.0	80.2	**0.1458**	26.8
1	84.2	**0.1497**	27.5	83.1	**0.1485**	27.3	82.1	**0.1473**	27.1	81.1	**0.1462**	26.9	80.1	**0.1451**	26.7
0	84.1	**0.1490**	27.4	83.1	**0.1478**	27.2	82.1	**0.1466**	27.0	81.0	**0.1455**	26.8	80.0	**0.1443**	26.6
+29.9	84.1	**0.1484**	27.2	83.0	**0.1472**	27.0	82.0	**0.1460**	26.8	81.0	**0.1448**	26.6	80.0	**0.1436**	26.4
8	84.0	**0.1477**	27.1	83.0	**0.1465**	26.9	82.0	**0.1453**	26.7	80.9	**0.1441**	26.5	79.9	**0.1429**	26.2
7	84.0	**0.1470**	27.0	82.9	**0.1458**	26.8	81.9	**0.1446**	26.6	80.9	**0.1434**	26.4	79.9	**0.1422**	26.1
6	83.9	**0.1463**	26.9	82.9	**0.1451**	26.7	81.9	**0.1439**	26.5	80.8	**0.1427**	26.3	79.8	**0.1415**	26.0
5	83.9	**0.1456**	26.8	82.8	**0.1444**	26.6	81.8	**0.1432**	26.4	80.8	**0.1420**	26.2	79.8	**0.1408**	25.9
4	83.8	**0.1449**	26.7	82.8	**0.1437**	26.5	81.8	**0.1425**	26.3	80.7	**0.1413**	26.1	79.7	**0.1401**	25.8
3	83.8	**0.1442**	26.6	82.7	**0.1430**	26.4	81.7	**0.1418**	26.2	80.7	**0.1406**	26.0	79.7	**0.1394**	25.7
2	83.7	**0.1435**	26.5	82.7	**0.1423**	26.3	81.7	**0.1411**	26.1	80.6	**0.1399**	25.9	79.6	**0.1387**	25.6
1	83.7	**0.1428**	26.4	82.6	**0.1416**	26.2	81.6	**0.1404**	26.0	80.5	**0.1392**	25.8	79.5	**0.1380**	25.5
0	83.6	**0.1421**	26.3	82.6	**0.1409**	26.1	81.5	**0.1397**	25.9	80.4	**0.1385**	25.7	79.4	**0.1373**	25.4

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+28°.9	......	**0.1591**	......	98.9	**0.1580**	28.8	97.7	**0.1567**	28.5	96.6	**0.1554**	28.4	95.5	**0.1543**	28.2
8	......	**0 1585**	......	98.9	**0.1573**	28.7	97.7	**0.1560**	28.4	96.6	**0.1547**	28.3	95.5	**0.1536**	28.1
7	......	**0.1578**	......	98.9	**0.1566**	28.6	97.7	**0.1553**	28.3	96.6	**0.1541**	28.2	95.5	**0.1530**	28.0
6	......	**0.1571**	......	98.9	**0.1560**	28.5	97.7	**0.1546**	28.2	96.6	**0.1534**	28.1	95.5	**0.1524**	27.9
5	......	**0.1565**	......	98.9	**0.1553**	28.4	97.7	**0.1540**	28.1	96.6	**0.1528**	28.0	95.5	**0.1517**	27.8
4	......	**0.1558**	......	98.9	**0.1547**	28.3	97.7	**0.1534**	28.0	96.6	**0.1521**	27.9	95.4	**0.1511**	27.7
3	......	**0.1551**	......	98.9	**0.1540**	28.2	97.7	**0.1528**	27.9	96.6	**0.1515**	27.8	95.4	**0.1504**	27.6
2	......	**0.1545**	......	98.9	**0.1533**	28.1	97.7	**0.1521**	27.8	96.6	**0.1509**	27.7	95.4	**0.1497**	27.5
1	......	**0.1538**	......	98.9	**0.1526**	28.0	97.7	**0.1514**	27.7	96.6	**0.1502**	27.6	95.4	**0.1490**	27.4
0	......	**0.1531**	......	98.8	**0.1520**	27.8	97.6	**0.1508**	27.6	96.5	**0.1496**	27.5	95.4	**0.1484**	27.3
+27.9	......	**0.1524**	......	98.8	**0.1513**	27.7	97.6	**0.1501**	27.5	96.5	**0.1489**	27.4	95.3	**0.1478**	27.2
8	......	**0.1518**	......	98.8	**0.1507**	27.6	97.6	**0.1495**	27.4	96.5	**0.1482**	27.3	95.3	**0.1471**	27.1
7	......	**0.1511**	......	98.8	**0.1501**	27.5	97.6	**0.1489**	27.3	96.5	**0.1474**	27.2	95.3	**0.1465**	27.0
6	......	**0.1505**	......	98.8	**0.1494**	27.4	97.6	**0.1482**	27.2	96.5	**0.1467**	27.1	95.3	**0.1459**	26.9
5	......	**0.1499**	......	98.8	**0.1488**	27.3	97.6	**0.1476**	27.1	96.5	**0.1459**	27.0	95.3	**0.1452**	26.8
4	......	**0.1492**	......	98.8	**0.1481**	27.2	97.6	**0.1469**	27.0	96.5	**0.1452**	26.9	95.3	**0.1446**	26.7
3	......	**0.1486**	......	98.8	**0.1475**	27.1	97.6	**0.1463**	26.9	96.5	**0.1444**	26.8	95.3	**0.1440**	26.6
2	......	**0.1479**	......	98.8	**0.1468**	27.0	97.6	**0.1456**	26.8	96.5	**0.1437**	26.7	95.3	**0.1433**	26.5
1	......	**0.1473**	......	98.8	**0.1462**	26.9	97.6	**0.1450**	26.7	96.5	**0 1429**	26.6	95.3	**0.1426**	26.4
0	......	**0.1467**	......	98.8	**0.1455**	26.8	97.6	**0.1443**	26.6	96.4	**0.1422**	26.4	95.2	**0.1420**	26.2
+26.9	......	**0.1461**	......	98.8	**0.1449**	26.7	97.6	**0.1437**	26.5	96.4	**0.1416**	26.3	95.2	**0.1414**	26.0
8	......	**0.1455**	......	98.8	**0.1443**	26.6	97.6	**0.1431**	26.4	96.4	**0.1411**	26.2	95.2	**0.1408**	25.9
7	......	**0.1449**	......	98.8	**0.1437**	26.5	97.6	**0.1425**	26.3	96.4	**0.1406**	26.1	95.2	**0.1402**	25.8
6	......	**0.1443**	......	98.8	**0.1431**	26.4	97.6	**0.1419**	26.2	96.4	**0.1401**	26.0	95.2	**0.1396**	25.7
5	......	**0.1436**	......	98.8	**0.1425**	26.3	97.6	**0.1413**	26.1	96.4	**0.1396**	25.9	95.1	**0.1390**	25.6
4	......	**0.1430**	......	98.8	**0.1419**	26.2	97.6	**0.1407**	26.0	96.4	**0.1391**	25.8	95.1	**0.1384**	25.5
3	......	**0.1424**	......	98.8	**0.1413**	26.1	97.6	**0.1401**	25.9	96.4	**0.1386**	25.7	95.1	**0.1378**	25.4
2	......	**0.1418**	......	98.8	**0.1407**	26.0	97.6	**0.1395**	25.8	96.4	**0.1381**	25.6	95.1	**0.1372**	25.3
1	......	**0.1412**	......	98.8	**0.1401**	25.9	97.6	**0.1389**	25.7	96.4	**0.1376**	25.5	95.1	**0.1366**	25.2
0	......	**0.1406**	......	98.8	**0.1395**	25.8	97.5	**0.1383**	25.6	96.3	**0.1371**	25.4	95.0	**0.1359**	25.1

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+28°.9	94.4	**0.1531**	28.0	93.2	**0.1520**	27.8	92.1	**0.1508**	27.7	91.0	**0.1497**	27.5	90.0	**0.1484**	27.3
8	94.4	**0.1525**	27.9	93.2	**0.1513**	27.7	92.1	**0.1501**	27.6	91.0	**0.1490**	27.4	89.9	**0.1477**	27.2
7	94.4	**0.1519**	27.8	93.2	**0.1506**	27.6	92.0	**0.1495**	27.5	90.9	**0.1483**	27.3	89.9	**0.1471**	27.1
6	94.4	**0.1512**	27.7	93.2	**0.1499**	27.5	92.0	**0.1488**	27.4	90.9	**0.1476**	27.2	89.9	**0.1464**	27.0
5	94.4	**0.1505**	27.6	93.1	**0.1493**	27.4	92.0	**0.1482**	27.3	90.8	**0.1470**	27.1	89.8	**0.1458**	26.9
4	94.3	**0.1498**	27.5	93.1	**0.1486**	27.3	92.0	**0.1475**	27.2	90.8	**0.1463**	27.0	89.8	**0.1451**	26.8
3	94.3	**0.1492**	27.4	93.1	**0.1480**	27.2	91.9	**0.1469**	27.1	90.8	**0.1457**	26.9	89.8	**0.1444**	26.7
2	94.3	**0.1486**	27.3	93.1	**0.1473**	27.1	91.9	**0.1462**	27.0	90.8	**0.1450**	26.8	89.7	**0.1438**	26.6
1	94.3	**0.1479**	27.2	93.1	**0.1467**	27.0	91.9	**0.1456**	26.9	90.7	**0.1443**	26.7	89.7	**0.1432**	26.5
0	94.2	**0.1472**	27.1	93.0	**0.1460**	26.9	91.9	**0.1449**	26.7	90.7	**0.1437**	26.5	89.6	**0.1425**	26.3
+27.9	94.2	**0.1466**	27.0	93.0	**0.1454**	26.8	91.8	**0.1443**	26.6	90.7	**0.1431**	26.4	89.6	**0.1419**	26.2
8	94.2	**0.1460**	26.9	93.0	**0.1447**	26.7	91.8	**0.1437**	26.5	90.7	**0.1425**	26.3	89.6	**0.1412**	26.1
7	94.2	**0.1454**	26.8	93.0	**0.1441**	26.6	91.8	**0.1431**	26.4	90.6	**0.1419**	26.2	89.5	**0.1406**	26.0
6	94.2	**0.1448**	26.7	93.0	**0.1434**	26.5	91.8	**0.1424**	26.3	90.6	**0.1412**	26.1	89.5	**0.1400**	25.9
5	94.1	**0.1441**	26.6	92.9	**0.1428**	26.4	91.7	**0.1418**	26.2	90.6	**0.1406**	26.0	89.5	**0.1394**	25.8
4	94.1	**0.1435**	26.5	92.9	**0.1422**	26.3	91.7	**0.1411**	26.1	90.6	**0.1399**	25.9	89.4	**0.1387**	25.7
3	94.1	**0.1428**	26.4	92.9	**0.1416**	26.2	91.7	**0.1405**	26.0	90.5	**0.1393**	25.8	89.4	**0.1380**	25.6
2	94.1	**0.1421**	26.3	92.9	**0.1410**	26.1	91.7	**0.1398**	25.9	90.5	**0.1386**	25.7	89.4	**0.1374**	25.5
1	94.1	**0.1415**	26.2	92.9	**0.1403**	26.0	91.7	**0.1392**	25.8	90.5	**0.1380**	25.6	89.4	**0.1368**	25.4
0	94.0	**0.1409**	26.0	92.8	**0.1397**	25.8	91.7	**0.1385**	25.7	90.5	**0.1373**	25.5	89.4	**0.1362**	25.3
+26.9	94.0	**0.1402**	25.9	92.8	**0.1390**	25.7	91.6	**0.1378**	25.6	90.4	**0.1366**	25.4	89.3	**0.1355**	25.2
8	94.0	**0.1396**	25.8	92.8	**0.1384**	25.6	91.6	**0.1372**	25.5	90.4	**0.1360**	25.3	89.3	**0.1349**	25.1
7	94.0	**0.1390**	25.7	92.8	**0.1378**	25.5	91.6	**0.1366**	25.4	90.4	**0.1354**	25.2	89.3	**0.1343**	25.0
6	94.0	**0.1384**	25.6	92.8	**0.1372**	25.4	91.6	**0.1360**	25.3	90.4	**0.1348**	25.1	89.2	**0.1337**	24.9
5	93.9	**0.1378**	25.5	92.7	**0.1366**	25.3	91.5	**0.1354**	25.2	90.3	**0.1342**	25.0	89.2	**0.1331**	24.8
4	93.9	**0.1372**	25.4	92.7	**0.1360**	25.2	91.5	**0.1348**	25.1	90.3	**0.1336**	24.9	89.2	**0.1325**	24.7
3	93.9	**0.1366**	25.3	92.7	**0.1354**	25.1	91.5	**0.1342**	25.0	90.3	**0.1330**	24.8	89.1	**0.1319**	24.6
2	93.9	**0.1360**	25.2	92.7	**0.1348**	25.0	91.5	**0.1336**	24.9	90.3	**0.1324**	24.7	89.1	**0.1313**	24.5
1	93.9	**0.1354**	25.1	92.7	**0.1342**	24.9	91.4	**0.1330**	24.8	90.2	**0.1318**	24.6	89.1	**0.1307**	24.3
0	93.8	**0.1348**	25.0	92.6	**0.1336**	24.8	91.4	**0.1324**	24.6	90.2	**0.1312**	24.4	89.0	**0.1301**	24.2

2

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.0			1°.1			1°.2			1°.3			1°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+28°.9	88.9	**0.1473**	27.0	87.8	**0.1461**	26.9	86.7	**0.1450**	26.7	85.7	**0.1439**	26.5	84.7	**0.1427**	26.3
8	88.9	**0.1466**	26.9	87.8	**0.1454**	26.8	86.7	**0.1443**	26.6	85.7	**0.1432**	26.4	84.6	**0.1421**	26.2
7	88.8	**0.1459**	26.8	87.7	**0.1448**	26.7	86.6	**0.1437**	26.5	85.6	**0.1426**	26.3	84.6	**0.1415**	26.1
6	88.8	**0.1453**	26.7	87.7	**0.1442**	26.6	86.6	**0.1431**	26.4	85.6	**0.1420**	26.2	84.5	**0.1409**	26.0
5	88.7	**0.1446**	26.6	87.6	**0.1436**	26.5	86.5	**0.1425**	26.3	85.5	**0.1414**	26.1	84.5	**0.1403**	25.9
4	88.7	**0.1439**	26.5	87.6	**0.1430**	26.4	86.5	**0.1419**	26.2	85.5	**0.1408**	26.0	84.4	**0.1396**	25.8
3	88.6	**0.1433**	26.4	87.5	**0.1423**	26.3	86.4	**0.1412**	26.1	85.4	**0.1401**	25.9	84.4	**0.1389**	25.7
2	88.6	**0.1426**	26.3	87.5	**0.1416**	26.2	86.4	**0.1405**	26.0	85.4	**0.1394**	25.8	84.3	**0.1382**	25.6
1	88.5	**0.1420**	26.2	87.4	**0.1409**	26.1	86.3	**0.1398**	25.9	85.3	**0.1387**	25.7	84.3	**0.1375**	25.5
0	88.5	**0.1413**	26.1	87.4	**0.1402**	26.0	86.3	**0.1391**	25.8	85.3	**0.1380**	25.6	84.2	**0.1368**	25.4
+27.9	88.4	**0.1407**	26.0	87.4	**0.1396**	25.8	86.2	**0.1384**	25.6	85.2	**0.1374**	25.4	84.2	**0.1362**	25.2
8	88.4	**0.1401**	25.9	87.3	**0.1390**	25.7	86.2	**0.1378**	25.5	85.2	**0.1368**	25.3	84.1	**0.1356**	25.1
7	88.4	**0.1395**	25.8	87.3	**0.1384**	25.6	86.2	**0.1372**	25.4	85.1	**0.1362**	25.2	84.1	**0.1350**	25.0
6	88.4	**0.1389**	25.7	87.3	**0.1378**	25.5	86.1	**0.1366**	25.3	85.1	**0.1356**	25.1	84.0	**0.1344**	24.9
5	88.4	**0.1383**	25.6	87.2	**0.1372**	25.4	86.1	**0.1360**	25.2	85.0	**0.1350**	25.0	84.0	**0.1338**	24.8
4	88.3	**0.1377**	25.5	87.2	**0.1366**	25.3	86.1	**0.1354**	25.1	85.0	**0.1344**	24.9	83.9	**0.1332**	24.7
3	88.3	**0.1371**	25.4	87.2	**0.1360**	25.2	86.0	**0.1348**	25.0	84.9	**0.1337**	24.8	83.9	**0.1325**	24.6
2	88.3	**0.1364**	25.3	87.1	**0.1353**	25.1	86.0	**0.1341**	24.9	84.9	**0.1330**	24.7	83.8	**0.1318**	24.5
1	88.3	**0.1357**	25.2	87.1	**0.1346**	25.0	86.0	**0.1334**	24.8	84.8	**0.1323**	24.6	83.8	**0.1311**	24.4
0	88.2	**0.1350**	25.1	87.1	**0.1339**	24.9	85.9	**0.1327**	24.7	84.8	**0.1316**	24.5	83.7	**0.1301**	24.3
+26.9	88.2	**0.1343**	24.9	87.0	**0.1332**	24.7	85.9	**0.1320**	24.5	84.7	**0.1309**	24.3	83.7	**0.1298**	24.1
8	88.2	**0.1337**	24.8	87.0	**0.1326**	24.6	85.8	**0.1314**	24.4	84.7	**0.1303**	24.2	83.6	**0.1292**	24.0
7	88.2	**0.1331**	24.7	87.0	**0.1320**	24.5	85.8	**0.1308**	24.3	84.7	**0.1297**	24.1	83.6	**0.1286**	23.9
6	88.0	**0.1325**	24.6	86.9	**0.1314**	24.4	85.8	**0.1302**	24.2	84.6	**0.1291**	24.0	83.5	**0.1280**	23.8
5	88.0	**0.1319**	24.5	86.9	**0.1308**	24.3	85.7	**0.1296**	24 1	84.6	**0.1285**	23.9	83.5	**0.1274**	23.7
4	88.0	**0.1313**	24.4	86.9	**0.1302**	24.2	85.7	**0.1290**	24.0	84.6	**0.1279**	23.8	83.4	**0.1268**	23.6
3	87.9	**0.1307**	24.3	86.8	**0.1296**	24.1	85.6	**0.1284**	23.9	84.5	**0.1273**	23.7	83.4	**0.1262**	23.5
2	87.9	**0.1301**	24.2	86.8	**0.1290**	24.0	85.6	**0.1278**	23.8	84.5	**0.1267**	23.6	83.3	**0.1256**	23.4
1	87.9	**0.1295**	24.1	86.8	**0.1284**	23.9	85.5	**0.1272**	23.7	84.5	**0.1261**	23.5	83.3	**0.1250**	23.3
0	87.8	**0.1289**	24.0	86.7	**0.1278**	23.8	85.5	**0.1266**	23.6	84.4	**0.1255**	23.4	83.2	**0.1243**	23.2

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS. 1°.5			1°.6			1°.7			1°.8			1°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+28°.9	83.5	**0.1414**	26.2	82.5	**0.1407**	26.0	81.5	**0.1391**	25.8	80.4	**0.1379**	25.5	79.4	**0.1367**	25.3
8	83.5	**0.1407**	26.0	82.5	**0.1400**	25.8	81.5	**0.1384**	25.6	80.4	**0.1372**	25.3	79.4	**0.1360**	25.1
7	83.4	**0.1400**	25.9	82.4	**0.1393**	25.7	81.4	**0.1377**	25.5	80.3	**0.1365**	25.2	79.3	**0.1353**	25.0
6	83.4	**0.1393**	25.8	82.4	**0.1386**	25.6	81.4	**0.1370**	25.4	80.3	**0.1358**	25.1	79.2	**0.1346**	24.9
5	83.3	**0.1386**	25.7	82.3	**0.1379**	25.5	81.3	**0.1363**	25.3	80.2	**0.1351**	25.0	79.2	**0.1339**	24.8
4	83.3	**0.1380**	25.6	82.3	**0.1372**	25.4	81.3	**0.1357**	25.2	80.2	**0.1344**	24.9	79.1	**0.1332**	24.7
3	83.2	**0.1374**	25.5	82.2	**0.1365**	25.3	81.2	**0.1351**	25.1	80.1	**0.1338**	24.8	79.1	**0.1326**	24.6
2	83.2	**0.1368**	25.4	82.2	**0.1358**	25.2	81.2	**0.1345**	25.0	80.1	**0.1332**	24.7	79.0	**0.1320**	24.5
1	83.1	**0.1362**	25.3	82.1	**0.1351**	25.1	81.1	**0.1339**	24.9	80.0	**0.1326**	24.6	79.0	**0.1314**	24.4
0	83.1	**0.1355**	25.2	82.1	**0.1344**	25.0	81.0	**0.1332**	24.8	80.0	**0.1320**	24.5	78.9	**0.1308**	24.3
+27.9	83.0	**0.1348**	25.0	82.0	**0.1337**	24.8	81.0	**0.1325**	24.6	79.9	**0.1313**	24.3	78.9	**0.1301**	24.1
8	83.0	**0.1341**	24.9	82.0	**0.1330**	24.7	80.9	**0.1318**	24.4	79.9	**0.1306**	24.2	78.8	**0.1294**	24.0
7	82.9	**0.1334**	24.8	81.9	**0.1323**	24.6	80.9	**0.1311**	24.3	79.8	**0.1299**	24.1	78.8	**0.1287**	23.9
6	82.9	**0.1328**	24.7	81.9	**0.1317**	24.5	80.8	**0.1305**	24.2	79.8	**0.1293**	24.0	78.7	**0.1281**	23.8
5	82.8	**0.1322**	24.6	81.8	**0.1311**	24.4	80.8	**0.1299**	24.1	79.7	**0.1287**	23.9	78.7	**0.1275**	23.7
4	82.8	**0.1316**	24.5	81.8	**0.1305**	24.3	80.7	**0.1293**	24.0	79.7	**0.1281**	23.8	78.6	**0.1269**	23.6
3	82.8	**0.1310**	24.4	81.7	**0.1299**	24.2	80.7	**0.1287**	23.9	79.6	**0.1275**	23.7	78.6	**0.1263**	23.5
2	82.7	**0.1304**	24.3	81.7	**0.1293**	24.1	80.6	**0.1281**	23.8	79.6	**0.1269**	23.6	78.5	**0.1257**	23.4
1	82.7	**0.1298**	24.2	81.6	**0.1287**	24.0	80.6	**0.1275**	23.7	79.5	**0.1263**	23.5	78.5	**0.1251**	23.3
0	82.7	**0.1292**	24.1	81.6	**0.1281**	23.9	80.5	**0.1269**	23.6	79.5	**0.1257**	23.4	78.4	**0.1245**	23.2
+26.9	82.6	**0.1286**	23.9	81.5	**0.1274**	23.7	80.5	**0.1262**	23.4	79.4	**0.1250**	23.2	78.3	**0.1238**	23.0
8	82.6	**0.1280**	23.7	81.5	**0.1267**	23.5	80.4	**0.1255**	23.3	79.4	**0.1243**	23.1	78.3	**0.1232**	22.9
7	82.5	**0.1273**	23.6	81.4	**0.1260**	23.4	80.4	**0.1248**	23.2	79.3	**0.1237**	23.0	78.2	**0.1226**	22.8
6	82.5	**0.1266**	23.5	81.4	**0.1254**	23.3	80.3	**0.1242**	23.1	79.3	**0.1231**	22.9	78.2	**0.1220**	22.7
5	82.4	**0.1260**	23.4	81.3	**0.1248**	23.2	80.3	**0.1236**	23.0	79.2	**0.1225**	22.8	78.1	**0.1214**	22.6
4	82.4	**0.1254**	23.3	81.3	**0.1242**	23.1	80.2	**0.1230**	22.9	79.2	**0.1219**	22.7	78.0	**0.1208**	22.5
3	82.3	**0.1248**	23.2	81.2	**0.1236**	23.0	80.2	**0.1224**	22.8	79.1	**0.1213**	22.6	77.9	**0.1202**	22.4
2	82.3	**0.1242**	23.1	81.2	**0.1230**	22.9	80.1	**0.1218**	22.7	79.0	**0.1207**	22.5	77.8	**0.1195**	22.3
1	82.2	**0.1236**	23.0	81.1	**0.1224**	22.8	80.0	**0.1212**	22.6	78.9	**0.1201**	22.4	77.7	**0.1189**	22.2
0	82.1	**0.1230**	22.9	81.0	**0.1218**	22.7	79.9	**0.1206**	22.5	78.8	**0.1195**	22.3	77.6	**0.1183**	22.1

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+25°.9	......	**0.1400**	......	98.8	**0.1389**	25.7	97.5	**0.1377**	25.5	96.3	**0.1365**	25.3	95.0	**0.1353**	25.1
8	......	**0.1394**	......	98.8	**0.1383**	25.6	97.5	**0.1371**	25.4	96.3	**0.1359**	25.2	95.0	**0.1347**	25.0
7	......	**0.1388**	......	98.8	**0.1377**	25.5	97.5	**0.1365**	25.3	96.3	**0.1353**	25.1	95.0	**0.1341**	24.9
6	......	**0.1382**	......	98.8	**0.1371**	25.4	97.5	**0.1359**	25.2	96.3	**0.1347**	25.0	95.0	**0.1335**	24.8
5	......	**0.1376**	......	98.8	**0.1365**	25.3	97.5	**0.1353**	25.1	96.3	**0.1341**	24.9	95.0	**0.1329**	24.7
4	......	**0.1370**	......	98.8	**0.1359**	25.2	97.5	**0.1347**	25.0	96.3	**0.1335**	24.8	95.0	**0.1323**	24.6
3	......	**0.1364**	......	98.8	**0.1353**	25.1	97.5	**0.1341**	24.9	96.3	**0.1329**	24.7	95.0	**0.1317**	24.5
2	......	**0.1358**	......	98.8	**0.1347**	25.0	97.5	**0.1335**	24.8	96.3	**0.1323**	24.6	95.0	**0.1311**	24.4
1	......	**0.1352**	......	98.8	**0.1341**	24.9	97.5	**0.1329**	24.7	96.3	**0.1317**	24.5	95.0	**0.1305**	24.3
0	......	**0.1346**	......	98.7	**0.1335**	24.8	97.4	**0.1323**	24.6	96.2	**0.1311**	24.4	94.9	**0.1299**	24.2
+24.9	......	**0.1341**	......	98.7	**0.1328**	24.7	97.4	**0.1317**	24.5	96.2	**0.1305**	24.3	94.9	**0.1293**	24.1
8	......	**0.1335**	......	98.7	**0.1322**	24.6	97.4	**0.1312**	24.4	96.2	**0.1300**	24.2	94.9	**0.1288**	24.0
7	......	**0.1329**	......	98.7	**0.1316**	24.5	97.4	**0.1306**	24.3	96.2	**0.1294**	24.1	94.9	**0.1282**	23.9
6	......	**0.1323**	......	98.7	**0.1310**	24.4	97.4	**0.1300**	24.2	96.1	**0.1288**	24.0	94.9	**0.1276**	23.8
5	......	**0.1318**	......	98.7	**0.1305**	24.3	97.4	**0.1295**	24.1	96.1	**0.1283**	23.9	94.8	**0.1271**	23.7
4	......	**0.1312**	......	98.7	**0.1300**	24.2	97.4	**0.1289**	24.0	96.1	**0.1277**	23.8	94.8	**0.1265**	23.6
3	......	**0.1306**	......	92.7	**0.1294**	24.1	97.4	**0.1283**	23.9	96.1	**0.1271**	23.7	94.8	**0.1259**	23.5
2	......	**0.1300**	......	98.7	**0.1289**	24.0	97.4	**0.1278**	23.8	96.1	**0.1266**	23.6	94.8	**0.1254**	23.4
1	......	**0.1294**	......	98.7	**0.1284**	23.9	97.4	**0.1272**	23.7	96.0	**0.1260**	23.5	94.8	**0.1248**	23.3
0	......	**0.1289**	......	98.7	**0.1278**	23.8	97.3	**0.1266**	23.6	96.0	**0.1254**	23.4	94.7	**0.1242**	23.2
+23.9	......	**0.1283**	......	98.7	**0.1273**	23.7	97.3	**0.1260**	23.5	96.0	**0.1249**	23.3	94.7	**0.1237**	23.1
8	......	**0.1278**	......	98.7	**0.1267**	23.6	97.3	**0.1254**	23.4	96.0	**0.1243**	23.2	94.7	**0.1231**	22.9
7	......	**0.1272**	......	99.7	**0.1262**	23.5	97.3	**0.1249**	23.3	96.0	**0.1238**	23.1	94.7	**0.1226**	22.8
6	......	**0.1267**	......	98.7	**0.1256**	23.4	97.3	**0.1243**	23.2	96.0	**0.1232**	23.0	94.7	**0.1220**	22.7
5	......	**0.1261**	......	98.7	**0.1251**	23.3	97.3	**0.1238**	23.1	96.0	**0.1227**	22.9	94.7	**0.1215**	22.6
4	......	**0.1256**	......	98.7	**0.1245**	23.2	97.3	**0.1232**	23.0	96.0	**0.1221**	22.8	94.7	**0.1209**	22.5
3	......	**0.1250**	......	98.7	**0.1239**	23.1	97.3	**0.1227**	22.9	96.0	**0.1216**	22.7	94.7	**0.1204**	22.4
2	......	**0.1245**	......	98.7	**0.1234**	23.0	97.3	**0.1221**	22.8	96.0	**0.1210**	22.6	94.7	**0.1198**	22.3
1	......	**0.1239**	......	98.7	**0.1228**	22.9	97.3	**0.1216**	22.7	96.0	**0.1205**	22.5	94.7	**0.1193**	22.2
0	......	**0.1234**	......	98.6	**0.1223**	22.8	97.2	**0.1211**	22.6	95.9	**0.1199**	22.4	94.6	**0.1187**	22.1

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+25°.9	93.8	**0.1342**	24.9	92.6	**0.1330**	24.7	91.4	**0.1318**	24.5	90.2	**0.1306**	24.3	89.0	**0.1295**	24.0
8	93.8	**0.1336**	24.8	92.6	**0.1324**	24.6	91.4	**0.1312**	24.4	90.2	**0.1300**	24.2	89.0	**0.1289**	23.9
7	93.8	**0.1330**	24.7	92.6	**0.1318**	24.5	91.4	**0.1306**	24.3	90.1	**0.1294**	24.1	88.9	**0.1283**	23.8
6	93.8	**0.1324**	24.6	92.5	**0.1312**	24.4	91.3	**0.1300**	24.2	90.1	**0.1288**	24.0	88.9	**0.1277**	23.7
5	93.8	**0.1318**	24.5	92.5	**0.1306**	24.3	91.3	**0.1294**	24.1	90.0	**0.1282**	23.9	88.9	**0.1271**	23.6
4	93.8	**0.1312**	24.4	92.5	**0.1300**	24.2	91.3	**0.1288**	24.0	90.0	**0.1276**	23.8	88.8	**0.1265**	23.5
3	93.8	**0.1306**	24.3	92.5	**0.1294**	24.1	91.3	**0.1282**	23.9	90.0	**0.1270**	23.7	88.8	**0.1259**	23.4
2	93.8	**0.1300**	24.2	92.5	**0.1288**	24.0	91.3	**0.1276**	23.8	89.9	**0.1264**	23.6	88.8	**0.1253**	23.3
1	93.8	**0.1294**	24.1	92.5	**0.1282**	23.9	91.2	**0.1270**	23.7	89.9	**0.1258**	23.5	88.7	**0.1247**	23.2
0	93.7	**0.1288**	24.0	92.4	**0.1276**	23.8	91.2	**0.1264**	23.6	89.9	**0.1252**	23.3	88.7	**0.1241**	23.1
+24.9	93.7	**0.1285**	23.9	92.4	**0.1270**	23.7	91.2	**0.1258**	23.4	89.9	**0.1246**	23.2	88.7	**0.1235**	23.0
8	93.6	**0.1283**	23.8	92.4	**0.1265**	23.6	91.1	**0.1253**	23.3	89.8	**0.1240**	23.1	88.6	**0.1230**	22.9
7	93.6	**0.1280**	23.7	92.3	**0.1259**	23.5	91.1	**0.1247**	23.2	89.8	**0.1235**	23.0	88.6	**0.1224**	22.8
6	93.6	**0.1277**	23.6	92.3	**0.1253**	23.4	91.0	**0.1241**	23.1	89.7	**0.1229**	22.9	88.5	**0.1218**	22.7
5	93.5	**0.1275**	23.5	92.3	**0.1248**	23.3	91.0	**0.1236**	23.0	89.7	**0.1223**	22.8	88.5	**0.1213**	22.6
4	93.5	**0.1272**	23.4	92.2	**0.1242**	23.2	91.0	**0.1230**	22.9	89.7	**0.1218**	22.7	88.4	**0.1207**	22.5
3	93.5	**0.1269**	23.3	92.2	**0.1236**	23.1	90.9	**0.1224**	22.8	89.6	**0.1212**	22.6	88.4	**0.1201**	22.4
2	93.4	**0.1267**	23.2	92.2	**0.1231**	22.9	90.9	**0.1219**	22.7	89.6	**0.1207**	22.5	88.4	**0.1196**	22.3
1	93.4	**0.1264**	23.1	92.1	**0.1225**	22.8	90.9	**0.1213**	22.6	89.5	**0.1201**	22.4	88.3	**0.1190**	22.2
0	93.4	**0.1261**	23.0	92.1	**0.1219**	22.7	90.8	**0.1207**	22.5	89.5	**0.1195**	22.3	88.3	**0.1184**	22.1
+23.9	93.4	**0.1252**	22.9	92.1	**0.1214**	22.6	90.8	**0.1201**	22.4	89.5	**0.1189**	22.1	88.3	**0.1179**	21.9
8	93.4	**0.1244**	22.8	92.1	**0.1208**	22.5	90.8	**0.1196**	22.3	89.4	**0.1183**	22.0	88.2	**0.1174**	21.8
7	93.4	**0.1235**	22.7	92.0	**0.1203**	22.4	90.8	**0.1190**	22.2	89.4	**0.1178**	21.9	88.2	**0.1168**	21.7
6	93.4	**0.1227**	22.6	92.0	**0.1197**	22.3	90.8	**0.1185**	22.1	89.4	**0.1173**	21.8	88.2	**0.1163**	21.6
5	93.4	**0.1218**	22.5	92.0	**0.1192**	22.2	90.7	**0.1179**	22.0	89.3	**0.1167**	21.7	88.1	**0.1157**	21.5
4	93.3	**0.1210**	22.4	92.0	**0.1186**	22.1	90.7	**0.1174**	21.9	89.3	**0.1162**	21.6	88.1	**0.1152**	21.4
3	93.3	**0.1201**	22.3	92.0	**0.1181**	22.0	90.7	**0.1168**	21.8	89.3	**0.1156**	21.5	88.1	**0.1146**	21.3
2	93.3	**0.1193**	22.2	91.9	**0.1175**	21.9	90.7	**0.1163**	21.7	89.2	**0.1151**	21.4	88.0	**0.1141**	21.2
1	93.3	**0.1185**	22.1	91.9	**0.1170**	21.8	90.6	**0.1157**	21.6	89.2	**0.1145**	21.3	88.0	**0.1135**	21.1
0	93.3	**0.1176**	21.9	91.9	**0.1164**	21.7	90.6	**0.1152**	21.5	89.2	**0.1140**	21.2	87.9	**0.1129**	21.0

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.0			1°.1			1°.2			1°.3			1°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+25°.9	87.8	**0.1283**	23.8	86.7	**0.1272**	23.6	85.5	**0.1260**	23.4	84.4	**0.1249**	23.2	83.2	**0.1237**	23.0
8	87.8	**0.1277**	23.7	86.6	**0.1266**	23.5	85.4	**0.1254**	23.3	84.3	**0.1243**	23.1	83.1	**0.1231**	22.9
7	87.7	**0.1271**	23.6	86.6	**0.1260**	23.4	85.4	**0.1248**	23.2	84.3	**0.1237**	23.0	83.1	**0.1225**	22.8
6	87.7	**0.1265**	23.5	86.5	**0.1254**	23.3	85.3	**0.1242**	23.1	84.2	**0.1231**	22.9	83.0	**0.1219**	22.7
5	87.6	**0.1259**	23.4	86.5	**0.1248**	23.2	85.3	**0.1236**	23.0	84.2	**0.1225**	22.8	83.0	**0.1213**	22.6
4	87.6	**0.1253**	23.3	86.4	**0.1242**	23.1	85.2	**0.1230**	22.9	84.1	**0.1219**	22.7	82.9	**0.1207**	22.5
3	87.5	**0.1247**	23.2	86.4	**0.1236**	23.0	85.2	**0.1224**	22.8	84.1	**0.1213**	22.6	82.9	**0.1201**	22.4
2	87.5	**0.1241**	23.1	86.3	**0.1230**	22.9	85.1	**0.1218**	22.7	84.0	**0.1207**	22.5	82.8	**0.1195**	22.3
1	87.4	**0.1235**	23.0	86.3	**0.1224**	22.8	85.1	**0.1212**	22.6	84.0	**0.1201**	22.4	82.8	**0.1189**	22.2
0	87.4	**0.1229**	22.9	86.2	**0.1218**	22.7	85.0	**0.1206**	22.5	83.9	**0.1195**	22.3	82.7	**0.1183**	22.1
+24.9	87.3	**0.1223**	22.7	86.2	**0.1212**	22.5	85.0	**0.1200**	22.3	83.9	**0.1190**	22.1	82.7	**0.1178**	21.9
8	87.3	**0.1217**	22.6	86.2	**0.1206**	22.4	84.9	**0.1194**	22.2	83.8	**0.1184**	22.0	82.6	**0.1172**	21.8
7	87.3	**0.1211**	22.5	86.1	**0.1200**	22.3	84.9	**0.1188**	22.1	83.8	**0.1178**	21.9	82.6	**0.1166**	21.7
6	87.2	**0.1205**	22.4	86.1	**0.1194**	22.2	84.8	**0.1182**	22.0	83.7	**0.1172**	21.8	82.5	**0.1160**	21.6
5	87.2	**0.1200**	22.3	86.0	**0.1188**	22.1	84.8	**0.1176**	21.9	83.6	**0.1166**	21.7	82.4	**0.1154**	21.5
4	87.2	**0.1195**	22.2	86.0	**0.1182**	22.0	84.7	**0.1170**	21.8	83.6	**0.1160**	21.6	82.4	**0.1148**	21.4
3	87.1	**0.1190**	22.1	85.9	**0.1176**	21.9	84.7	**0.1164**	21.7	83.5	**0.1154**	21.5	82.3	**0.1142**	21.3
2	87.1	**0.1184**	22.0	85.9	**0.1170**	21.8	84.6	**0.1158**	21.6	83.4	**0.1148**	21.4	82.2	**0.1136**	21.2
1	87.1	**0.1178**	21.9	85.8	**0.1165**	21.7	84.6	**0.1153**	21.5	83.4	**0.1142**	21.3	82.2	**0.1130**	21.1
0	87.0	**0.1172**	21.8	85.8	**0.1160**	21.6	84.5	**0.1148**	21.4	83.3	**0.1137**	21.2	82.1	**0.1125**	20.9
+23.9	87.0	**0.1166**	21.7	85.7	**0.1154**	21.5	84.5	**0.1142**	21.2	83.3	**0.1131**	21.0	82.1	**0.1119**	20.7
8	87.0	**0.1161**	21.6	85.7	**0.1149**	21.4	84.4	**0.1136**	21.1	83.2	**0.1125**	20.9	82.0	**0.1114**	20.6
7	86.9	**0.1155**	21.5	85.6	**0.1143**	21.3	84.4	**0.1131**	21.0	83.2	**0.1120**	20.8	81.9	**0.1108**	20.5
6	86.9	**0.1150**	21.4	85.6	**0.1138**	21.2	84.3	**0.1126**	20.9	83.1	**0.1115**	20.7	81.9	**0.1103**	20.4
5	86.8	**0.1144**	21.3	85.5	**0.1132**	21.1	84.3	**0.1120**	20.8	83.1	**0.1109**	20.6	81.8	**0.1097**	20.3
4	86.8	**0.1139**	21.2	85.5	**0.1127**	21.0	84.2	**0.1115**	20.7	83.0	**0.1104**	20.5	81.7	**0.1092**	20.2
3	86.7	**0.1133**	21.1	85.4	**0.1121**	20.9	84.2	**0.1109**	20.6	83.0	**0.1098**	20.4	81.7	**0.1086**	20.1
2	86.7	**0.1128**	21.0	85.4	**0.1116**	20.8	84.1	**0.1104**	20.5	82.9	**0.1093**	20.3	81.6	**0.1081**	20.0
1	86.6	**0.1122**	20.9	85.3	**0.1110**	20.7	84.1	**0.1098**	20.4	82.9	**0.1087**	20.2	81.5	**0.1075**	19.9
0	86.6	**0.1117**	20.8	85.3	**0.1105**	20.6	84.0	**0.1093**	20.3	82.8	**0.1082**	20.1	81.5	**0.1070**	19.8

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.5			1°.6			1°.7			1°.8			1°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+25°.9	82.0	0.1224	22.8	81.0	0.1212	22.6	79.9	0.1200	22.4	78.8	0.1189	22.2	77.6	0.1177	22.0
8	82.0	0.1218	22.6	81.0	0.1206	22.4	79.8	0.1195	22.2	78.7	0.1183	22.0	77.5	0.1171	21.8
7	81.9	0.1212	22.5	80.9	0.1200	22.3	79.8	0.1189	22.1	78.7	0.1177	21.8	77.5	0.1165	21.7
6	81.9	0.1206	22.4	80.9	0.1194	22.2	79.7	0.1183	22.0	78.6	0.1171	21.7	77.4	0.1159	21.6
5	81.8	0.1200	22.3	80.8	0.1188	22.1	79.7	0.1177	21.9	78.6	0.1165	21.6	77.4	0.1153	21.5
4	81.8	0.1194	22.2	80.8	0.1182	22.0	79.6	0.1171	21.8	78.5	0.1159	21.5	77.3	0.1147	21.4
3	81.7	0.1188	22.1	80.7	0.1176	21.9	79.6	0.1165	21.7	78.5	0.1153	21.4	77.3	0.1141	21.3
2	81.7	0.1182	22.0	80.6	0.1170	21.8	79.5	0.1159	21.6	78.4	0.1147	21.3	77.2	0.1135	21.2
1	81.6	0.1176	21.9	80.5	0.1164	21.7	79.4	0.1153	21.5	78.3	0.1141	21.2	77.2	0.1129	21.1
0	81.5	0.1170	21.8	80.4	0.1158	21.6	79.3	0.1147	21.4	78.2	0.1135	21.1	77.1	0.1123	20.9
+24.9	81.4	0.1165	21.6	80.3	0.1153	21.4	79.3	0.1142	21.2	78.2	0.1130	20.9	77.1	0.1118	20.7
8	81.4	0.1160	21.5	80.2	0.1148	21.3	79.2	0.1137	21.0	78.1	0.1125	20.8	77.0	0.1113	20.6
7	81.3	0.1154	21.4	80.2	0.1143	21.2	79.1	0.1132	20.9	78.1	0.1120	20.7	76.9	0.1108	20.5
6	81.3	0.1148	21.3	80.1	0.1137	21.1	79.0	0.1126	20.8	78.0	0.1114	20.6	76.8	0.1102	20.4
5	81.2	0.1142	21.2	80.1	0.1131	21.0	78.9	0.1120	20.7	77.9	0.1108	20.5	76.7	0.1096	20.3
4	81.2	0.1136	21.1	80.0	0.1125	20.9	78.8	0.1114	20.6	77.8	0.1102	20.4	76.6	0.1090	20.2
3	81.1	0.1130	21.0	80.0	0.1119	20.8	78.7	0.1108	20.5	77.7	0.1096	20.3	76.5	0.1084	20.1
2	81.1	0.1124	20.9	79.9	0.1113	20.7	78.6	0.1102	20.4	77.6	0.1090	20.2	76.4	0.1078	20.0
1	81.0	0.1118	20.8	79.8	0.1107	20.6	78.5	0.1096	20.3	77.5	0.1084	20.1	76.3	0.1072	19.9
0	80.9	0.1113	20.7	79.7	0.1101	20.5	78,5	0.1090	20.2	77.4	0.1078	20.0	76.2	0.1066	19.8
+23.9	80.8	0.1107	20.5	79.6	0.1095	20.3	78.4	0.1084	20.0	77.3	0.1072	19.8	76.1	0.1060	19.6
8	80.8	0.1101	20.4	79.6	0.1089	20.2	78.4	0.1079	19.9	77.3	0.1066	19.7	76.1	0.1054	19.4
7	80.7	0.1095	20.3	79.5	0.1083	20.1	78.3	0.1073	19.8	77.2	0.1060	19.6	76.0	0.1018	19.3
6	80.7	0.1089	20.2	79.5	0.1078	20.0	78.3	0.1068	19.7	77.2	0.1054	19.5	76.0	0.1042	19.2
5	80.6	0.1084	20.1	79.4	0.1072	19.9	78.2	0.1062	19.6	77.1	0.1049	19.4	75.9	0.1037	19.1
4	80.6	0.1079	20.0	79.4	0.1066	19.8	78.2	0.1057	19.5	77.1	0.1044	19.3	75.9	0.1032	19.0
3	80.5	0.1074	19.9	79.3	0.1061	19.7	78.1	0.1051	19.4	77.0	0.1039	19.2	75.8	0.1027	18.9
2	80.5	0.1069	19.8	79.3	0.1055	19.6	78.1	0.1046	19.3	76.9	0.1034	19.1	75.7	0.1022	18.8
1	80.4	0.1064	19.7	79.2	0.1051	19.5	78.0	0.1040	19.2	76.8	0.1029	19.0	75.6	0.1017	18.7
0	80.3	0.1059	19.6	79.1	0.1047	19.4	77.9	0.1035	19.1	76.7	0.1024	18.9	75.5	0.1012	18.6

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+22°.9	......	**0.1229**	......	98.6	**0.1218**	22.7	97.2	**0.1206**	22.5	95.9	**0.1194**	22.3	94.6	**0.1182**	22.0
8	......	**0.1224**	......	98.6	**0.1213**	22.6	97.2	**0.1201**	22.4	95.9	**0.1189**	22.2	94.6	**0.1176**	21.9
7	......	**0.1218**	......	98.6	**0.1208**	22.5	97.2	**0.1195**	22.3	95.9	**0.1183**	22.1	94.6	**0.1171**	21.8
6	......	**0.1213**	......	98.6	**0.1202**	22.4	97.2	**0.1190**	22.2	95.9	**0.1178**	22.0	94.5	**0.1165**	21.7
5	......	**0.1207**	......	98.6	**0.1197**	22.3	97.2	**0.1184**	22.1	95.9	**0.1172**	21.9	94.5	**0.1160**	21.6
4	......	**0.1202**	......	98.6	**0.1191**	22.2	97.2	**0.1178**	22.0	95.9	**0.1167**	21.8	94.5	**0.1154**	21.5
3	......	**0.1196**	......	98.6	**0.1186**	22.1	97.2	**0.1173**	21.9	95.9	**0.1161**	21.7	95.5	**0.1149**	21.4
2	......	**0.1191**	......	98.6	**0.1180**	22.0	97.2	**0.1167**	21.8	95.9	**0.1156**	21.6	94.5	**0.1143**	21.3
1	......	**0.1185**	......	98.6	**0.1174**	21.9	97.2	**0.1162**	21.7	95.9	**0.1150**	21.5	94.5	**0.1138**	21.2
0	......	**0.1180**	......	98.6	**0.1169**	21.8	97.2	**0.1157**	21.6	95.8	**0.1145**	21.4	94.4	**0.1133**	21.1
+21.9	......	**0.1174**	......	98.6	**0.1163**	21.7	97.2	**0.1151**	21.4	95.8	**0.1139**	21.2	94.4	**0.1127**	21.0
8	......	**0.1169**	......	98.6	**0.1158**	21.6	97.2	**0.1146**	21.3	95.8	**0.1134**	21.1	94.4	**0.1122**	20.9
7	......	**0.1164**	......	98.6	**0.1153**	21.5	97.2	**0.1141**	21.2	95.8	**0.1129**	21.0	94.4	**0.1117**	20.8
6	......	**0.1159**	......	98.6	**0.1148**	21.4	97.2	**0.1136**	21.1	95.8	**0.1124**	20.9	94.4	**0.1112**	20.7
5	......	**0.1154**	......	98.6	**0.1143**	21.3	97.2	**0.1131**	21.0	95.8	**0.1119**	20.8	94.3	**0.1107**	20.6
4	......	**0.1149**	......	98.6	**0.1138**	21.2	97.2	**0.1126**	20.9	95.8	**0.1114**	20.7	94.3	**0.1102**	20.5
3	......	**0.1144**	......	98.6	**0.1133**	21.1	97.2	**0.1121**	20.8	95.8	**0.1109**	20.6	94.3	**0.1097**	20.4
2	......	**0.1139**	......	98.6	**0.1128**	21.0	97.2	**0.1116**	20.7	95.8	**0.1104**	20.5	94.3	**0.1092**	20.3
1	......	**0.1134**	......	98.6	**0.1123**	20.9	97.2	**0.1111**	20.6	95.8	**0.1099**	20.4	94.3	**0.1087**	20.2
0	......	**0.1128**	......	98.6	**0.1117**	20.8	97.1	**0.1105**	20.5	95.7	**0.1093**	20.3	94.2	**0.1081**	20.1
+20.9	......	**0.1123**	......	98.5	**0.1112**	20.7	97.1	**0.1100**	20.4	95.7	**0.1088**	20.2	94.2	**0.1076**	19.9
8	......	**0.1118**	......	98.5	**0.1107**	20.6	97.1	**0.1095**	20.3	95.7	**0.1083**	20.1	94.2	**0.1071**	19.8
7	......	**0.1113**	......	98.5	**0.1102**	20.5	97.1	**0.1090**	20.2	95.7	**0.1078**	20.0	94.2	**0.1066**	19.7
6	......	**0.1108**	......	98.5	**0.1097**	20.4	97.1	**0.1085**	20.1	95.6	**0.1073**	19.9	94.2	**0.1061**	19.6
5	......	**0.1103**	......	98.5	**0.1092**	20.3	97.1	**0.1080**	20.0	95.6	**0.1068**	19.8	94.1	**0.1056**	19.5
4	......	**0.1098**	......	98.5	**0.1087**	20.2	97.1	**0.1075**	19.9	95.6	**0.1063**	19.7	94.1	**0.1051**	19.4
3	......	**0.1093**	......	98.5	**0.1082**	20.1	97.1	**0.1070**	19.8	95.6	**0.1058**	19.6	94.1	**0.1046**	19.3
2	......	**0.1088**	......	98.5	**0.1077**	20.0	97.1	**0.1065**	19.7	95.6	**0.1053**	19.5	94.1	**0.1041**	19.2
1	......	**0.1083**	......	98.5	**0.1072**	19.9	97.0	**0.1060**	19.6	95.5	**0.1048**	19.4	94.0	**0.1036**	19.1
0	......	**0.1078**	......	98.5	**0.1067**	19.8	97.0	**0.1055**	19.5	95.5	**0.1043**	19.3	94.0	**0.1031**	19.0

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+22°.9	93.3	**0.1171**	21.8	91.9	**0.1159**	21.5	90.6	**0.1147**	21.3	89.2	**0.1135**	21.1	87.9	**0.1124**	20.9
8	93.3	**0.1166**	21.7	91.9	**0.1154**	21.4	90.6	**0.1142**	21.2	89.2	**0.1129**	21.0	87.9	**0.1119**	20.8
7	93.2	**0.1161**	21.6	91.8	**0.1149**	21.3	90.5	**0.1136**	21.1	89.1	**0.1124**	20.9	87.8	**0.1113**	20.7
6	93.2	**0.1155**	21.5	91.8	**0.1143**	21.2	90.5	**0.1131**	21.0	89.1	**0.1119**	20.8	87.8	**0.1108**	20.6
5	93.2	**0.1150**	21.4	91.8	**0.1138**	21.1	90.5	**0.1125**	20.9	89.1	**0.1113**	20.7	87.8	**0.1102**	20.5
4	93.1	**0.1144**	21.3	91.7	**0.1132**	21.0	90.4	**0.1120**	20.8	89.0	**0.1108**	20.6	87.7	**0.1097**	20.4
3	93.1	**0.1139**	21.2	91.7	**0.1127**	20.9	90.4	**0.1114**	20.7	89.0	**0.1102**	20.5	87.7	**0.1091**	20.3
2	93.1	**0.1133**	21.1	91.7	**0.1121**	20.8	90.4	**0.1109**	20.6	89.0	**0.1097**	20.4	87.7	**0.1086**	20.2
1	93.0	**0.1128**	21.0	91.6	**0.1116**	20.7	90.3	**0.1103**	20.5	88.9	**0.1091**	20.3	87.6	**0.1080**	20.1
0	93.0	**0.1122**	20.9	91.6	**0.1110**	20.6	90.3	**0.1098**	20.4	88.9	**0.1086**	20.2	87.6	**0.1075**	20.0
+21.9	93.0	**0.1116**	20.8	91.6	**0.1104**	20.5	90.3	**0.1092**	20.3	88.9	**0.1080**	20.0	87.6	**0.1069**	19.8
8	93.0	**0.1111**	20.7	91.5	**0.1099**	20.4	90.3	**0.1087**	20.2	88.8	**0.1075**	19.9	87.5	**0.1064**	19.7
7	93.0	**0.1106**	20.6	91.5	**0.1094**	20.3	90.2	**0.1082**	20.1	88.8	**0.1070**	19.8	87.5	**0.1059**	19.6
6	92.9	**0.1101**	20.5	91.5	**0.1089**	20.2	90.2	**0.1077**	20.0	88.7	**0.1065**	19.7	87.4	**0.1054**	19.5
5	92.9	**0.1096**	20.4	91.5	**0.1084**	20.1	90.2	**0.1072**	19.9	88.7	**0.1060**	19.6	87.4	**0.1049**	19.4
4	92.9	**0.1091**	20.3	91.4	**0.1079**	20.0	90.1	**0.1067**	19.8	88.6	**0.1055**	19.5	87.3	**0.1044**	19.3
3	92.9	**0.1086**	20.2	91.4	**0.1074**	19.9	90.1	**0.1062**	19.7	88.6	**0.1050**	19.4	87.3	**0.1039**	19.2
2	92.9	**0.1081**	20.1	91.4	**0.1069**	19.8	90.0	**0.1057**	19.6	88.6	**0.1045**	19.3	87.2	**0.1034**	19.1
1	92.8	**0.1076**	20.0	91.3	**0.1064**	19.7	90.0	**0.1052**	19.5	88.5	**0.1040**	19.2	87.2	**0.1029**	19.0
0	92.8	**0.1070**	19.9	91.3	**0.1058**	19.6	89.9	**0.1046**	19.4	88.5	**0.1034**	19.1	87.1	**0.1023**	18.9
+20.9	92.8	**0.1065**	19.7	91.3	**0.1053**	19.4	89.9	**0.1042**	19.2	88.5	**0.1030**	18.9	87.1	**0.1018**	18.7
8	92.8	**0.1060**	19.6	91.3	**0.1048**	19.3	89.8	**0.1037**	19.1	88.4	**0.1025**	18.8	87.1	**0.1013**	18.6
7	92.7	**0.1055**	19.5	91.2	**0.1043**	19.2	89.8	**0.1032**	19.0	88.4	**0.1020**	18.7	87.0	**0.1008**	18.5
6	92.7	**0.1050**	19.4	91.2	**0.1038**	19.1	89.7	**0.1027**	18.9	88.3	**0.1015**	18.6	87.0	**0.1003**	18.4
5	92.7	**0.1045**	19.3	91.2	**0.1033**	19.0	89.7	**0.1022**	18.8	88.3	**0.1010**	18.5	86.9	**0.0998**	18.3
4	92.6	**0.1040**	19.2	91.1	**0.1028**	18.9	89.6	**0.1017**	18.7	88.3	**0.1005**	18.4	86.9	**0.0993**	18.2
3	92.6	**0.1035**	19.1	91.1	**0.1023**	18.8	89.6	**0.1012**	18.6	88.2	**0.1000**	18.3	86.8	**0.0988**	18.1
2	92.6	**0.1030**	19.0	91.1	**0.1018**	18.7	89.6	**0.1007**	18.5	88.2	**0.0995**	18.2	86.8	**0.0983**	18.0
1	92.5	**0.1025**	18.9	91.0	**0.1013**	18.6	89.6	**0.1002**	18.4	88.1	**0.0990**	18.1	86.7	**0.0978**	17.9
0	92.5	**0.1020**	18.8	91.0	**0.1008**	18.5	89.6	**0.0997**	18.3	88.1	**0.0985**	18.0	86.7	**0 0973**	17.8

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.0			1°.1			1°.2			1°.3			1°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+22°.9	86.6	**0.1112**	20.6	85.3	**0.1100**	20.6	84.0	**0.1088**	20.3	82.8	**0.1077**	20.1	81.5	**0.1064**	19.8
8	86.6	**0.1106**	20.5	85.3	**0.1095**	20.4	84.0	**0.1083**	20.1	82.7	**0.1071**	19.9	81.5	**0.1059**	19.6
7	86.5	**0.1100**	20.4	85.2	**0.1090**	20.3	83.9	**0.1078**	19.9	82.7	**0.1066**	19.7	81.4	**0.1053**	19.4
6	86.5	**0.1094**	20.3	85.2	**0.1085**	20.2	83.8	**0.1072**	19.8	82.6	**0.1061**	19.6	81.3	**0.1048**	19.3
5	86.4	**0.1088**	20.2	85.1	**0.1080**	20.1	83.8	**0.1067**	19.7	82.5	**0.1056**	19.5	81.3	**0.1043**	19.2
4	86.4	**0.1083**	20.1	85.1	**0.1075**	20.0	83.7	**0.1061**	19.6	82.5	**0.1050**	19.4	81.2	**0.1037**	19.1
3	86.3	**0.1078**	20.0	85.0	**0.1069**	19.9	83.6	**0.1056**	19.5	82.4	**0.1045**	19.3	81.1	**0.1032**	19.0
2	86.3	**0.1073**	19.9	85.0	**0.1063**	19.8	83.6	**0.1050**	19.4	82.3	**0.1039**	19.2	81.1	**0.1027**	18.9
1	86.2	**0.1068**	19.8	84.9	**0.1057**	19.7	83.5	**0.1045**	19.3	82.3	**0.1034**	19.1	81.0	**0.1021**	18.8
0	86.2	**0.1063**	19.7	84.9	**0.1051**	19.5	83.5	**0.1039**	19.2	82.2	**0.1028**	19.0	80.9	**0.1016**	18.7
+21.9	86.1	**0.1057**	19.5	84.8	**0.1045**	19.3	83.4	**0.1033**	19.0	82.2	**0.1022**	18.8	80.8	**0.1010**	18.5
8	86.1	**0.1052**	19.4	84.8	**0.1040**	19.2	83.4	**0.1028**	18.9	82.1	**0.1017**	18.7	80.8	**0.1005**	18.4
7	86.0	**0.1047**	19.3	84.7	**0.1035**	19.1	83.3	**0.1023**	18.8	82.1	**0.1012**	18.6	80.7	**0.1000**	18.3
6	86.0	**0.1042**	19.2	84.7	**0.1030**	19.0	83.3	**0.1018**	18.7	82.0	**0.1007**	18.5	80.6	**0.0995**	18.2
5	85.9	**0.1037**	19.1	84.6	**0.1025**	18.9	83.2	**0.1013**	18.6	82.0	**0.1002**	18.4	80.6	**0.0990**	18.1
4	85.9	**0.1032**	19.0	84.6	**0.1020**	18.8	83.2	**0.1008**	18.5	81.9	**0.0997**	18.3	80.5	**0.0985**	18.0
3	85.8	**0.1027**	18.9	84.5	**0.1015**	18.7	83.1	**0.1003**	18.4	81.9	**0.0992**	18.2	80.4	**0.0980**	17.9
2	85.8	**0.1022**	18.8	84.5	**0.1010**	18.6	83.1	**0.0998**	18.3	81.8	**0.0987**	18.1	80.4	**0.0975**	17.8
1	85.7	**0.1017**	18.7	84.4	**0.1005**	18.5	83.0	**0.0993**	18.2	81.8	**0.0982**	18.0	80.3	**0.0970**	17.7
0	85.7	**0.1011**	18.6	84.4	**0.1000**	18.4	83.0	**0.0988**	18.1	81.7	**0.0977**	17.9	80.3	**0.0965**	17.6
+20.9	85.6	**0.1006**	18.4	84.3	**0.0995**	18.2	82.9	**0.0983**	17.9	81.7	**0.0972**	17.7	80.2	**0.0960**	17.4
8	85.6	**0.1001**	18.3	84.2	**0.0990**	18.1	82.9	**0.0978**	17.8	81.6	**0.0967**	17.5	80.1	**0.0955**	17.2
7	85.5	**0.0996**	18.2	84.2	**0.0985**	18.0	82.8	**0.0973**	17.7	81.6	**0.0962**	17.4	80.0	**0.0950**	17.1
6	85.5	**0.0991**	18.1	84.1	**0.0980**	17.9	82.8	**0.0968**	17.6	81.5	**0.0957**	17.3	79.9	**0.0945**	17.0
5	85.4	**0.0986**	18.0	84.0	**0.0975**	17.8	82.7	**0.0963**	17.5	81.4	**0.0952**	17.2	79.9	**0.0940**	16.9
4	85.4	**0.0981**	17.9	84.0	**0.0970**	17.7	82.7	**0.0958**	17.4	81.3	**0.0947**	17.1	79.8	**0.0935**	16.8
3	85.3	**0.0976**	17.8	83.9	**0.0965**	17.6	82.6	**0.0953**	17.3	81.3	**0.0942**	17.0	79.8	**0.0930**	16.7
2	85.3	**0.0971**	17.7	83.9	**0.0960**	17.5	82.6	**0.0948**	17.2	81.2	**0.0937**	16.9	79.7	**0.0925**	16.6
1	85.2	**0.0966**	17.6	83.8	**0.0955**	17.4	82.5	**0.0943**	17.1	81.1	**0.0932**	16.8	79.7	**0.0920**	16.5
0	85.2	**0.0961**	17.5	83.8	**0.0950**	17.3	82.4	**0.0938**	17.0	81.0	**0.0927**	16.7	79.6	**0.0915**	16.4

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.5			1°.6			1°.7			1°.8			1°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+22°.9	80.3	**0.1054**	19.5	79.0	**0.1042**	19.2	77.8	**0.1030**	19.0	76.7	**0.1018**	18.7	75.5	**0.1007**	18.4
8	80.2	**0.1048**	19.3	79.0	**0.1036**	19.0	77.7	**0.1024**	18.8	76.6	**0.1012**	18.5	75.5	**0.1001**	18.2
7	80.2	**0.1042**	19.2	78.9	**0.1030**	18.9	77.6	**0.1018**	18.7	76.5	**0.1006**	18.4	75.4	**0.0995**	18.1
6	80.1	**0.1036**	19.1	78.8	**0.1024**	18.8	77.5	**0.1012**	18.6	76.4	**0.1000**	18.3	75.3	**0.0990**	18.0
5	80.1	**0.1030**	19.0	78.7	**0.1018**	18.7	77.5	**0.1006**	18.5	76.3	**0.0995**	18.2	75.2	**0.0984**	17.9
4	80.0	**0.1025**	18.9	78.6	**0.1013**	18.6	77.4	**0.1001**	18.4	76.2	**0.0990**	18.1	75.1	**0.0978**	17.8
3	79.9	**0.1020**	18.8	78.5	**0.1008**	18.5	77.4	**0.0996**	18.3	76.1	**0.0985**	18.0	75.0	**0.0972**	17.7
2	79.8	**0.1015**	18.7	78.4	**0.1003**	18.4	77.3	**0.0991**	18.2	76.0	**0.0980**	17.9	74.9	**0.0967**	17.6
1	79.7	**0.1010**	18.6	78.3	**0.0998**	18.3	77.2	**0.0986**	18.1	75.9	**0.0975**	17.8	74.8	**0.0962**	17.5
0	79.6	**0.1005**	18.5	78.3	**0.0993**	18.2	77.1	**0.0981**	18.0	75.9	**0.0970**	17.7	74.7	**0.0958**	17.4
+21.9	79.5	**0.1000**	18.4	78.2	**0.0987**	18.0	77.0	**0.0975**	17.8	75.8	**0.0965**	17.5	74.7	**0.0952**	17.2
8	79.5	**0.0995**	18.3	78.2	**0.0982**	17.9	76.9	**0.0970**	17.6	75.7	**0.0960**	17.3	74.6	**0.0947**	17.0
7	79.4	**0.0990**	18.2	78.1	**0.0977**	17.8	76.8	**0.0965**	17.5	75.6	**0.0955**	17.2	74.5	**0.0942**	16.9
6	79.4	**0.0985**	18.1	78.1	**0.0972**	17.7	76.7	**0.0960**	17.4	75.5	**0.0950**	17.1	74.4	**0.0937**	16.8
5	79.3	**0.0980**	18.0	78.0	**0.0967**	17.6	76.6	**0.0955**	17.3	75.4	**0.0945**	17.0	74.3	**0.0932**	16.7
4	79.3	**0.0975**	17.9	78.0	**0.0962**	17.5	76.6	**0.0950**	17.2	75.3	**0.0940**	16.9	74.2	**0.0927**	16.6
3	79.2	**0.0970**	17.8	77.9	**0.0957**	17.4	76.5	**0.0945**	17.1	75.3	**0.0935**	16.8	74.1	**0.0922**	16.5
2	79.2	**0.0965**	17.7	77.9	**0.0952**	17.3	76.5	**0.0940**	17.0	75.2	**0.0930**	16.7	74.0	**0.0917**	16.4
1	79.1	**0.0960**	17.6	77.8	**0.0947**	17.2	76.4	**0.0935**	16.9	75.2	**0.0925**	16.6	73.9	**0.0912**	16.3
0	79.0	**0.0951**	17.5	77.7	**0.0942**	17.1	76.4	**0.0930**	16.8	75.1	**0.0919**	16.5	73.8	**0.0907**	16.2
+20.9	79.0	**0.0950**	17.3	77.7	**0.0936**	16.9	76.4	**0.0925**	16.6	75.1	**0.0913**	16.3	73.8	**0.0901**	16.0
8	78.9	**0.0946**	17.1	77.6	**0.0931**	16.7	76.3	**0.0920**	16.4	75.0	**0.0908**	16.1	73.7	**0.0896**	15.8
7	78.8	**0.0942**	16.9	77.5	**0.0926**	16.6	76.2	**0.0915**	16.3	74.9	**0.0903**	16.0	73.6	**0.0891**	15.7
6	78.7	**0.0937**	16.7	77.4	**0.0921**	16.5	76.1	**0.0910**	16.2	74.8	**0.0898**	15.9	73.5	**0.0886**	15.6
5	78.6	**0.0932**	16.6	77.3	**0.0916**	16.4	76.0	**0.0905**	16.1	74.7	**0.0893**	15.8	73.4	**0.0881**	15.5
4	78.5	**0.0927**	16.5	77.2	**0.0911**	16.3	75.9	**0.0900**	16.0	74.6	**0.0888**	15.7	73.3	**0.0876**	15.4
3	78.4	**0.0922**	16.4	77.1	**0.0906**	16.2	75.8	**0.0895**	15.9	74.5	**0.0883**	15.6	73.2	**0.0871**	15.3
2	78.3	**0.0917**	16.3	77.0	**0.0901**	16.1	75.7	**0.0890**	15.8	74.4	**0.0878**	15.5	73.1	**0.0866**	15.2
1	78.2	**0.0912**	16.2	76.9	**0.0896**	16.0	75.6	**0.0885**	15.7	74.3	**0.0873**	15.4	73.0	**0.0861**	15.1
0	78.1	**0.0907**	16.1	76.8	**0.0891**	15.9	75.5	**0.0880**	15.6	74.2	**0.0868**	15.3	72.9	**0.0856**	15.0

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+19°.9	......	**0.1074**	......	98.5	**0.1063**	19.7	97.0	**0.1051**	19.4	95.5	**0.1039**	19.2	94.0	**0.1027**	18.9
8	......	**0.1069**	......	98.5	**0.1058**	19.6	97.0	**0.1046**	19.3	95.5	**0.1034**	19.1	94.0	**0.1022**	18.8
7	......	**0.1064**	......	98.5	**0.1053**	19.5	97.0	**0.1041**	19.2	95.5	**0.1029**	19.0	94.0	**0.1017**	18.7
6	......	**0.1059**	......	99.5	**0.1048**	19.4	97.0	**0.1036**	19.1	95.5	**0.1024**	18.9	93.9	**0.1012**	18.6
5	......	**0.1054**	......	98.5	**0.1043**	19.3	97.0	**0.1031**	19.0	95.5	**0.1019**	18.8	93.9	**0.1007**	18.5
4	......	**0.1049**	......	98.5	**0.1038**	19.2	97.0	**0.1026**	18.9	95.5	**0.1014**	18.7	93.9	**0.1002**	18.4
3	......	**0.1044**	......	98.5	**0.1033**	19.1	97.0	**0.1021**	18.8	95.5	**0.1009**	18.6	93.9	**0.0997**	18.3
2	......	**0.1039**	......	98.5	**0.1028**	19.0	97.0	**0.1016**	18.7	05.5	**0.1004**	18.5	93.9	**0.0992**	18.2
1	......	**0.1034**	......	98.5	**0.1023**	18.9	97.0	**0.1011**	18.6	95.5	**0.0999**	18.4	93.8	**0.0987**	18.1
0	......	**0.1030**	......	98.5	**0.1019**	18.8	96.9	**0.1007**	18.5	95.4	**0.0995**	18.3	93.8	**0.0983**	18.0
+18.9	......	**0.1026**	......	98.5	**0.1015**	18.7	96.9	**0.1003**	18.4	95.4	**0.0990**	18.1	93.8	**0.0979**	17.8
8	......	**0.1021**	......	98.5	**0.1010**	18.6	96.9	**0.0998**	18.3	95.4	**0.0986**	18.0	93.7	**0.0974**	17.7
7	.....	**0.1016**	......	98.5	**0.1005**	18.5	96.9	**0.0993**	18.2	95.3	**0.0981**	17.9	93.7	**0.0969**	17.6
6	......	**0.1011**	......	98.5	**0.1000**	18.4	96.9	**0.0988**	18.1	95.3	**0.0976**	17.8	93.7	**0.0964**	17.5
5	......	**0.1006**	......	98.5	**0.0995**	18.3	96.9	**0.0983**	18.0	95.3	**0.0971**	17.7	93.7	**0.0959**	17.4
4	......	**0.1001**	......	98.5	**0.0990**	18.2	96.8	**0.0978**	17.9	95.2	**0.0966**	17.6	93.6	**0.0954**	17.3
3	......	**0.0996**	......	98.5	**0.0985**	18.1	93.8	**0.0973**	17.8	95.2	**0.0961**	17.5	93.6	**0.0949**	17.2
2	......	**0.0991**	......	98.5	**0.0980**	18.0	96.8	**0.0968**	17.7	95.2	**0.0956**	17.4	93.6	**0.0944**	17.1
1	......	**0.0987**	......	98.5	**0.0976**	17.9	96.8	**0.0964**	17.6	95.1	**0.0952**	17.3	93.5	**0.0940**	17.0
0	......	**0.0983**	......	98.4	**0.0972**	17.8	93.7	**0.0960**	17.5	95.1	**0.0948**	17.2	93.5	**0.0936**	16.9
+17.9	......	**0.0979**	......	98.4	**0.0968**	17.6	96.7	**0.0956**	17.3	95.1	**0.0944**	17.1	93.5	**0.0932**	16.8
8	......	**0.0974**	......	98.4	**0.0963**	17.5	96.7	**0.0951**	17.2	95.1	**0.0939**	17.0	93.5	**0.0927**	16.7
7	......	**0.0969**	......	98.4	**0.0958**	17.4	96.7	**0.0946**	17.1	95.1	**0.0934**	16.9	93.5	**0.0922**	16.6
6	......	**0.0965**	......	98.4	**0.0954**	17.3	96.7	**0.0942**	17.0	95.1	**0.0930**	16.8	93.4	**0.0918**	16.5
5	......	**0.0961**	......	98.4	**0.0950**	17.2	93.7	**0.0938**	16.9	95.1	**0.0926**	16.7	93.4	**0.0914**	16.4
4	......	**0.0957**	......	98.4	**0.0946**	17.1	96.7	**0.0934**	16.8	95.1	**0.0922**	16.6	93.4	**0.0910**	16.3
3	......	**0.0953**	.....	98.4	**0.0942**	17.0	93.7	**0.0930**	16.7	95.1	**0.0918**	16.5	93.4	**0.0906**	16.2
2	......	**0.0949**	......	98.4	**0.0938**	16.9	96.7	**0.0926**	16.6	95.0	**0.0914**	16.4	93.4	**0.0902**	16.1
1	......	**0.0944**	......	98.4	**0.0933**	16.8	96.7	**0.0921**	16.5	95.0	**0.0909**	16.3	93.4	**0.0897**	16.0
0	......	**0.0939**	......	98.3	**0.0928**	16.7	96.6	**0.0916**	16.4	95.0	**0.0904**	16.2	93.3	**0.0892**	15.9

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+19°.9	92.5	**0.1016**	18.7	91.0	**0.1004**	18.4	89.6	**0.0993**	18.2	88.1	**0.0981**	17.9	86.7	**0.0969**	17.6
8	92.5	**0.1011**	18.6	91.0	**0.0999**	18.3	89.5	**0.0988**	18.1	88.1	**0.0976**	17.8	86.7	**0.0964**	17.5
7	92.4	**0.1006**	18.5	90.9	**0.0994**	18.2	89.5	**0.0983**	18.0	88.0	**0.0971**	17.7	86.6	**0.0959**	17.4
6	92.4	**0.1001**	18.4	90.9	**0.0989**	18.1	89.4	**0.0978**	17.9	88.0	**0.0966**	17.6	86.6	**0.0954**	17.3
5	92.4	**0.0996**	18.3	90.9	**0.0984**	18.0	89.4	**0.0973**	17.8	87.9	**0.0961**	17.5	86.5	**0.0949**	17.2
4	92.4	**0.0991**	18.2	90.9	**0.0979**	17.9	89.3	**0.0968**	17.7	87.9	**0.0956**	17.4	86.5	**0.0944**	17.1
3	92.4	**0.0986**	18.1	90.8	**0.0974**	17.8	89.3	**0.0963**	17.6	87.8	**0.0951**	17.3	86.4	**0.0939**	17.0
2	92.3	**0.0981**	18.0	90.8	**0.0969**	17.7	89.3	**0.0958**	17.5	87.8	**0.0946**	17.2	86.4	**0.0934**	16.9
1	92.3	**0.0976**	17.9	90.8	**0.0964**	17.6	89.2	**0.0953**	17.4	87.7	**0.0941**	17.1	86.3	**0.0929**	16.8
0	92.3	**0.0972**	17.8	90.7	**0.0960**	17.5	89.2	**0.0949**	17.3	87.7	**0.0937**	17.0	86.2	**0.0925**	16.7
+18.9	92.3	**0.0968**	17.6	90.7	**0.0956**	17.3	89.2	**0.0945**	17.0	87.7	**0.0933**	16.7	86.2	**0.0921**	16.4
8	92.2	**0.0963**	17.5	90.7	**0.0951**	17.2	89.2	**0.0940**	16.9	87.6	**0.0928**	16.6	86.2	**0.0916**	16.3
7	92.2	**0.0958**	17.4	90.6	**0.0946**	17.1	89.1	**0.0935**	16.8	87.6	**0.0923**	16.5	86.1	**0.0911**	16.2
6	92.2	**0.0953**	17.3	90.6	**0.0941**	17.0	89.1	**0.0930**	16.7	87.5	**0.0918**	16.4	86.1	**0.0906**	16.1
5	92.1	**0.0948**	17.2	90.5	**0.0936**	16.9	89.0	**0.0925**	16.6	87.5	**0.0913**	16.3	86.0	**0.0901**	16.0
4	92.1	**0.0943**	17.1	90.5	**0.0931**	16.8	89.0	**0.0920**	16.5	87.4	**0.0908**	16.2	86.0	**0.0896**	15.9
3	92.1	**0.0938**	17.0	90.4	**0.0926**	16.7	88.9	**0.0915**	16.4	87.4	**0.0903**	16.1	85.9	**0.0891**	15.8
2	92.0	**0.0933**	16.9	90.4	**0.0921**	16.6	88.9	**0.0910**	16.3	87.3	**0.0898**	16.0	85.9	**0.0886**	15.7
1	92.0	**0.0929**	16.8	90.3	**0.0917**	16.5	88.8	**0.0906**	16.2	87.3	**0.0894**	15.9	85.8	**0.0882**	15.6
0	91.9	**0.0925**	16.7	90.3	**0.0913**	16.4	88.8	**0.0902**	16.1	87.2	**0.0890**	15.8	85.7	**0.0878**	15.5
+17.9	91.9	**0.0920**	16.5	90.3	**0.0909**	16.2	88.8	**0.0898**	15.9	87.2	**0.0886**	15.6	85.7	**0.0873**	15.3
8	91.9	**0.0916**	16.4	90.3	**0.0904**	16.1	88.8	**0.0893**	15.8	87.2	**0.0881**	15.5	85.6	**0.0868**	15.2
7	91.9	**0.0911**	16.3	90.2	**0.0899**	16.0	88.7	**0.0888**	15.7	87.1	**0.0876**	15.4	85.6	**0.0864**	15.1
6	91.8	**0.0907**	16.2	90.2	**0.0895**	15.9	88.7	**0.0884**	15.6	87.1	**0.0872**	15.3	85.5	**0.0860**	15.0
5	91.8	**0.0903**	16.1	90.1	**0.0891**	15.8	88.6	**0.0880**	15.5	87.0	**0.0868**	15.2	85.5	**0.0856**	14.9
4	91.8	**0.0899**	16.0	90.1	**0.0887**	15.7	88.6	**0.0876**	15.4	87.0	**0.0864**	15.1	85.4	**0.0852**	14.8
3	91.8	**0.0895**	15.9	90.1	**0.0883**	15.6	88.5	**0.0872**	15.3	86.9	**0.0860**	15.0	85.4	**0.0848**	14.7
2	91.7	**0.0891**	15.8	90.0	**0.0879**	15.5	88.5	**0.0868**	15.2	86.9	**0.0856**	14.9	85.3	**0.0844**	14.6
1	91.7	**0.0886**	15.7	90.0	**0.0874**	15.4	88.4	**0.0863**	15.1	86.8	**0.0851**	14.8	85.3	**0.0839**	14.5
0	91.7	**0.0881**	15.6	90.0	**0.0869**	15.3	88.4	**0.0858**	15.0	86.8	**0.0846**	14.7	85.2	**0.0834**	14.4

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.0			1°.1			1°.2			1°.3			1°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+19°.9	85.2	**0.0957**	17.3	83.8	**0.0946**	17.1	82.4	**0.0934**	16.8	81.0	**0.0923**	16.5	79.6	**0.0911**	16.2
8	85.1	**0.0952**	17.2	83.7	**0.0941**	17.0	82.3	**0.0929**	16.6	80.9	**0.0918**	16.4	79.5	**0.0906**	16.0
7	85.1	**0.0947**	17.1	83.7	**0.0936**	16.8	82.3	**0.0924**	16.5	80.9	**0.0913**	16.3	79.5	**0.0901**	15.9
6	85.0	**0.0942**	17.0	83.6	**0.0931**	16.7	82.2	**0.0919**	16.4	80.8	**0.0908**	16.2	79.4	**0.0896**	15.8
5	85.0	**0.0937**	16.9	83.6	**0.0926**	16.6	82.1	**0.0914**	16.3	80.7	**0.0903**	16.1	79.3	**0.0891**	15.7
4	84.9	**0.0932**	16.8	83.5	**0.0921**	16.5	82.1	**0.0909**	16.2	80.7	**0.0898**	16.0	79.3	**0.0886**	15.6
3	84.9	**0.0927**	16.7	83.5	**0.0916**	16.4	82.0	**0.0904**	16.1	80.6	**0.0893**	15.9	79.2	**0.0881**	15.5
2	84.8	**0.0922**	16.6	83.4	**0.0911**	16.3	81.9	**0.0899**	16.0	80.5	**0.0888**	15.8	79.1	**0.0876**	15.4
1	84.8	**0.0917**	16.5	83.4	**0.0906**	16.2	81.9	**0.0894**	15.9	80.5	**0.0883**	15.7	79.0	**0.0871**	15.3
0	84.7	**0.0913**	16.4	83.3	**0.0902**	16.1	81.8	**0.0890**	15.8	80.4	**0.0879**	15.6	78.9	**0.0867**	15.2
+18.9	84.7	**0.0908**	16.2	83.3	**0.0897**	15.9	81.8	**0.0886**	15.6	80.3	**0.0874**	15.4	78.8	**0.0862**	15.0
8	84.6	**0.0903**	16.0	83.2	**0.0892**	15.7	81.7	**0.0881**	15.4	80.2	**0.0869**	15.2	78.7	**0.0857**	14.8
7	84.6	**0.0898**	15.9	83.2	**0.0887**	15.6	81.7	**0.0876**	15.3	80.1	**0.0864**	15.1	78.6	**0.0852**	14.7
6	84.5	**0.0893**	15.8	83.1	**0.0882**	15.5	81.6	**0.0871**	15.2	80.0	**0.0859**	15.0	78.5	**0.0847**	14.6
5	84.4	**0.0888**	15.7	83.0	**0.0877**	15.4	81.5	**0.0866**	15.1	79.9	**0.0854**	14.9	78.4	**0.0842**	14.5
4	84.4	**0.0883**	15.6	83.0	**0.0872**	15.3	81.5	**0.0861**	15.0	79.9	**0.0849**	14.8	78.3	**0.0837**	14.4
3	84.3	**0.0878**	15.5	82.9	**0.0867**	15.2	81.4	**0.0856**	14.9	79.8	**0.0844**	14.7	78.3	**0.0832**	14.3
2	84.2	**0.0874**	15.4	82.8	**0.0863**	15.1	81.3	**0.0851**	14.8	79.8	**0.0840**	14.6	78.2	**0.0828**	14.2
1	84.2	**0.0870**	15.3	82.8	**0.0859**	15.0	81.2	**0.0847**	14.7	79.7	**0.0836**	14.5	78.2	**0.0824**	14.1
0	84.1	**0.0866**	15.2	82.7	**0.0855**	14.9	81.1	**0.0843**	14.6	79.6	**0.0832**	14.3	78.1	**0.0820**	14.0
+17.9	84.0	**0.0861**	15.0	82.6	**0.0850**	14.7	81.0	**0.0838**	14.4	79.5	**0.0828**	14.1	78.0	**0.0816**	13.8
8	84.0	**0.0856**	14.9	82.5	**0.0845**	14.6	81.0	**0.0833**	14.2	79.4	**0.0823**	13.9	77.9	**0.0811**	13.6
7	83.9	**0.0851**	14.8	82.4	**0.0840**	14.5	80.9	**0.0828**	14.1	79.3	**0.0818**	13.8	77.8	**0.0806**	13.5
6	83.8	**0.0846**	14.7	82.4	**0.0835**	14.4	80.9	**0.0823**	14.0	79.3	**0.0813**	13.7	77.7	**0.0801**	13.4
5	83.8	**0.0842**	14.6	82.3	**0.0831**	14.3	80.8	**0.0819**	13.9	79.2	**0.0808**	13.6	77.7	**0.0796**	13.3
4	83.8	**0.0838**	14.5	82.3	**0.0827**	14.2	80.8	**0.0815**	13.8	79.2	**0.0804**	13.5	77.6	**0.0792**	13.2
3	83.7	**0.0834**	14.4	82.2	**0.0823**	14.1	80.7	**0.0811**	13.7	79.1	**0.0800**	13.4	77.6	**0.0788**	13.1
2	83.7	**0.0830**	14.3	82.2	**0.0819**	14.0	80.7	**0.0807**	13.6	79.1	**0.0796**	13.3	77.5	**0.0784**	13.0
1	83.6	**0.0826**	14.2	82.1	**0.0815**	13.9	80.6	**0.0803**	13.5	79.0	**0.0792**	13.2	77.5	**0.0780**	12.9
0	83.6	**0.0822**	14.1	82.1	**0.0811**	13.8	80.5	**0.0799**	13.4	79.0	**0.0788**	13.1	77.4	**0.0776**	12.8

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS. 1°.5			1°.6			1°.7			1°.8			1°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+19°.9	78.1	**0.0899**	15.9	76.8	**0.0886**	15.7	75.5	**0.0876**	15.4	74.2	**0.0864**	15.2	72.9	**0.0852**	14.9
8	78.1	**0.0891**	15.7	76.7	**0.0881**	15.5	75.4	**0.0872**	15.2	74.1	**0.0860**	15.0	72.8	**0.0848**	14.7
7	78.0	**0.0889**	15.6	76.7	**0.0876**	15.4	75.3	**0.0867**	15.1	74.0	**0.0855**	14.8	72.7	**0.0843**	14.5
6	78.0	**0.0884**	15.5	76.6	**0.0871**	15.3	75.2	**0.0862**	15.0	73.9	**0.0850**	14.7	72.6	**0.0838**	14.4
5	77.9	**0.0879**	15.4	76.6	**0.0866**	15.2	75.1	**0.0857**	14.9	73.8	**0.0845**	14.6	72.5	**0.0833**	14.3
4	77.9	**0.0874**	15.3	76.5	**0.0862**	15.1	75.0	**0.0852**	14.8	73.7	**0.0840**	14.5	72.4	**0.0828**	14.2
3	77.8	**0.0869**	15.2	76.5	**0.0858**	15.0	74.9	**0.0847**	14.7	73.6	**0.0835**	14.4	72.3	**0.0823**	14.1
2	77.8	**0.0864**	15.1	76.4	**0.0853**	14.9	74.9	**0.0842**	14.6	73.5	**0.0830**	14.3	72.2	**0.0818**	14.0
1	77.7	**0.0859**	15.0	76.3	**0.0848**	14.8	74.8	**0.0837**	14.5	73.4	**0.0825**	14.2	72.1	**0.0813**	13.9
0	77.6	**0.0855**	14.9	76.2	**0.0843**	14.6	74.8	**0.0832**	14.3	73.4	**0.0820**	14.0	72.0	**0.0808**	13.7
+18.9	77.5	**0.0851**	14.7	76.2	**0.0839**	14.4	74.8	**0.0828**	14.1	73.4	**0.0816**	13.8	71.9	**0.0804**	13.5
8	77.4	**0.0847**	14.5	76.1	**0.0835**	14.2	74.7	**0.0824**	13.9	73.3	**0.0812**	13.6	71.8	**0.0800**	13.3
7	77.3	**0.0843**	14.4	76.0	**0.0831**	14.1	74.6	**0.0820**	13.8	73.2	**0.0808**	13.4	71.7	**0.0796**	13.1
6	77.2	**0.0838**	14.3	75.9	**0.0826**	14.0	74.5	**0.0815**	13.7	73.1	**0.0803**	13.3	71.6	**0.0792**	13.0
5	77.1	**0.0833**	14.2	75.8	**0.0821**	13.9	74.4	**0.0810**	13.6	73.0	**0.0798**	13.2	71.5	**0.0787**	12.9
4	77.0	**0.0828**	14.1	75.7	**0.0816**	13.8	74.3	**0.0805**	13.5	72.9	**0.0793**	13.1	71.4	**0.0782**	12.8
3	76.9	**0.0823**	14.0	75.6	**0.0811**	13.7	74.2	**0.0800**	13.4	72.8	**0.0788**	13.0	71.3	**0.0777**	12.7
2	76.9	**0.0818**	13.9	75.5	**0.0806**	13.6	74.1	**0.0795**	13.3	72.7	**0.0783**	12.9	71.2	**0.0772**	12.6
1	76.8	**0.0813**	13.8	75.4	**0.0801**	13.5	74.0	**0.0790**	13.2	72.6	**0.0778**	12.8	71.1	**0.0767**	12.5
0	76.8	**0.0808**	13.7	75.4	**0.0796**	13.4	73.9	**0.0785**	13.1	72.5	**0.0773**	12.7	71.0	**0.0762**	12.4
+17.9	76.8	**0.0804**	13.5	75.4	**0.0791**	13.2	73.9	**0.0781**	12.9	72.4	**0.0769**	12.5	70.9	**0.0758**	12.2
8	76.7	**0.0800**	13.3	75.3	**0.0786**	13.0	73.8	**0.0776**	12.7	72.3	**0.0764**	12.3	70.8	**0.0753**	12.0
7	76.6	**0.0796**	13.2	75.2	**0.0781**	12.8	73.7	**0.0771**	12.6	72.2	**0.0759**	12.1	70.7	**0.0748**	11.8
6	76.5	**0.0792**	13.1	75.1	**0.0777**	12.7	73.6	**0.0766**	12.5	72.1	**0.0754**	12.0	70.6	**0.0743**	11.7
5	76.4	**0.0788**	13.0	75.0	**0.0773**	12.6	73.5	**0.0762**	12.4	72.0	**0.0750**	11.9	70.5	**0.0739**	11.6
4	76.3	**0.0784**	12.9	74.9	**0.0769**	12.5	73.4	**0.0758**	12.3	71.9	**0.0746**	11.8	70.4	**0.0735**	11.5
3	76.2	**0.0779**	12.8	74.8	**0.0765**	12.4	73.3	**0.0754**	12.2	71.8	**0.0742**	11.7	70.3	**0.0731**	11.4
2	76.1	**0.0774**	12.7	74.7	**0.0761**	12.3	73.2	**0.0750**	12.1	71.7	**0.0738**	11.6	70.2	**0.0727**	11.3
1	76.0	**0.0769**	12.6	74.6	**0.0757**	12.2	73.1	**0.0746**	12.0	71.6	**0.0734**	11.5	70.1	**0.0723**	11.2
0	76.0	**0.0761**	12.5	74.5	**0.0753**	12.1	73.0	**0.0741**	11.8	71.5	**0.0729**	11.4	70.0	**0.0718**	11.1

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+16°.9	......	**0.0934**	......	98.3	**0.0923**	16.6	96.6	**0.0911**	16.3	95.0	**0.0899**	16.0	93.3	**0.0887**	15.7
8	......	**0.0930**	......	98.3	**0.0919**	16.5	96.6	**0.0907**	16.2	95.0	**0.0895**	15.9	93.3	**0.0883**	15.6
7	......	**0.0926**	......	98.3	**0.0915**	16.4	96.6	**0.0903**	16.1	95.0	**0.0891**	15.8	93.3	**0.0879**	15.5
6	......	**0.0922**	......	98.3	**0.0911**	16.3	96.6	**0.0899**	16.0	94.9	**0.0887**	15.7	93.2	**0.0875**	15.4
5	......	**0.0918**	......	98.3	**0.0907**	16.2	96.6	**0.0895**	15.9	94.9	**0.0883**	15.6	93.2	**0.0871**	15.3
4	......	**0.0914**	......	98.3	**0.0903**	16.1	96.6	**0.0891**	15.8	94.9	**0.0879**	15.5	93.2	**0.0867**	15.2
3	......	**0.0910**	......	98.3	**0.0899**	16.0	96.6	**0.0887**	15.7	94.9	**0.0875**	15.4	93.2	**0.0863**	15.1
2	......	**0.0906**	......	98.3	**0.0895**	15.9	96.6	**0.0883**	15.6	94.9	**0.0871**	15.3	93.2	**0.0859**	15.0
1	......	**0.0902**	......	98.3	**0.0891**	15.8	96.6	**0.0879**	15.5	94.8	**0.0867**	15.2	93.1	**0.0855**	14.9
0	......	**0.0897**	......	98.3	**0.0886**	15.7	96.5	**0.0874**	15.4	94.8	**0.0862**	15.1	93.1	**0.0850**	14.8
+15.9	......	**0.0893**	......	98.3	**0.0882**	15.6	96.5	**0.0870**	15.3	94.8	**0.0858**	15.0	93.1	**0.0846**	14.6
8	......	**0.0889**	......	98.3	**0.0878**	15.5	96.5	**0.0866**	15.2	94.8	**0.0854**	14.9	93.1	**0.0842**	14.5
7	......	**0.0885**	......	98.3	**0.0874**	15.4	96.5	**0.0862**	15.1	94.8	**0.0850**	14.8	93.1	**0.0838**	14.4
6	......	**0.0881**	......	98.3	**0.0870**	15.3	96.5	**0.0858**	15.0	94.8	**0.0846**	14.7	93.0	**0.0834**	14.3
5	......	**0.0877**	......	98.3	**0.0866**	15.2	96.5	**0.0854**	14.9	94.8	**0.0842**	14.6	93.0	**0.0830**	14.2
4	......	**0.0873**	......	98.3	**0.0862**	15.1	96.5	**0.0850**	14.8	94.8	**0.0838**	14.5	93.0	**0.0826**	14.1
3	......	**0.0869**	......	98.3	**0.0858**	15.0	96.5	**0.0846**	14.7	94.8	**0.0834**	14.4	93.0	**0.0822**	14.0
2	......	**0.0865**	......	98.3	**0.0854**	14.9	96.5	**0.0842**	14.6	94.8	**0.0830**	14.3	92.9	**0.0818**	13.9
1	......	**0.0861**	......	98.3	**0.0850**	14.8	96.5	**0.0838**	14.5	94.8	**0.0826**	14.2	92.9	**0.0814**	13.8
0	......	**0.0857**	......	98.2	**0.0846**	14.7	96.4	**0.0834**	14.4	94.7	**0.0822**	14.1	92.9	**0.0810**	13.7
+14.9	......	**0.0854**	......	98.2	**0.0843**	14.6	96.4	**0.0831**	14.3	94.7	**0.0819**	14.0	92.9	**0.0807**	13.6
8	......	**0.0850**	......	98.2	**0.0839**	14.5	96.4	**0.0827**	14.2	94.7	**0.0815**	13.9	92.9	**0.0803**	13.5
7	......	**0.0846**	......	98.2	**0.0835**	14.4	96.4	**0.0823**	14.1	94.6	**0.0811**	13.8	92.8	**0.0799**	13.4
6	......	**0.0842**	......	98.2	**0.0831**	14.3	96.4	**0.0819**	14.0	94.6	**0.0807**	13.7	92.8	**0.0795**	13.3
5	......	**0.0838**	......	98.2	**0.0827**	14.2	96.4	**0.0815**	13.9	94.6	**0.0803**	13.6	92.8	**0.0791**	13.2
4	......	**0.0834**	......	98.2	**0.0823**	14.1	96.4	**0.0811**	13.8	94.6	**0.0799**	13.5	92.7	**0.0787**	13.1
3	......	**0.0830**	......	98.2	**0.0819**	14.0	96.4	**0.0807**	13.7	94.6	**0.0795**	13.4	92.7	**0.0783**	13.0
2	......	**0.0826**	......	98.2	**0.0815**	13.9	96.4	**0.0803**	13.6	94.5	**0.0791**	13.3	92.7	**0.0779**	12.9
1	......	**0.0822**	......	98.2	**0.0811**	13.8	96.4	**0.0799**	13.5	94.5	**0.0787**	13.2	92.6	**0.0775**	12.8
0	......	**0.0819**	......	98.2	**0.0808**	13.7	96.3	**0.0796**	13.4	94.5	**0.0784**	13.1	92.6	**0.0772**	12.7

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches	Temperature of the dew-point.
+16°.9	91.7	**0.0876**	15.4	90.0	**0.0861**	15.1	88.4	**0.0853**	14.8	86.8	**0.0841**	14.5	85.2	**0.0829**	14.2
8	91.7	**0.0872**	15.3	90.0	**0.0860**	15.0	88.4	**0.0849**	14.7	86.8	**0.0837**	14.4	85.2	**0.0825**	14.1
7	91.7	**0.0868**	15.2	89.9	**0.0856**	14.9	88.3	**0.0845**	14.6	86.7	**0.0833**	14.3	85.1	**0.0821**	14.0
6	91.7	**0.0864**	15.1	89.9	**0.0852**	14.8	88.3	**0.0841**	14.5	86.7	**0.0829**	14.2	85.1	**0.0817**	13.9
5	91.6	**0.0860**	15.0	89.9	**0.0848**	14.7	88.3	**0.0837**	14.4	86.6	**0.0825**	14.1	85.0	**0.0813**	13.8
4	91.6	**0.0856**	14.9	89.8	**0.0844**	14.6	88.2	**0.0833**	14.3	86.6	**0.0821**	14.0	85.0	**0.0809**	13.7
3	91.6	**0.0852**	14.8	89.8	**0.0840**	14.5	88.2	**0.0829**	14.2	86.5	**0.0817**	13.9	84.9	**0.0805**	13.6
2	91.5	**0.0848**	14.7	89.8	**0.0836**	14.4	88.2	**0.0825**	14.1	86.5	**0.0813**	13.8	84.9	**0.0801**	13.5
1	91.5	**0.0844**	14.6	89.7	**0.0832**	14.3	88.1	**0.0821**	14.0	86.4	**0.0809**	13.7	84.8	**0.0797**	13.4
0	91.4	**0.0839**	14.5	89.7	**0.0827**	14.2	88.1	**0.0816**	13.9	86.4	**0.0804**	13.6	84.8	**0.0792**	13.3
+15.9	91.3	**0.0835**	14.3	89.7	**0.0823**	14.0	88.1	**0.0812**	13.7	86.4	**0.0800**	13.3	84.8	**0.0788**	13.0
8	91.3	**0.0831**	14.2	89.7	**0.0819**	13.9	88.1	**0.0808**	13.6	86.4	**0.0796**	13.2	84.8	**0.0784**	12.9
7	91.3	**0.0827**	14.1	89.6	**0.0815**	13.8	88.0	**0.0804**	13.5	86.3	**0.0792**	13.1	84.7	**0.0780**	12.8
6	91.3	**0.0823**	14.0	89.6	**0.0811**	13.7	88.0	**0.0800**	13.4	86.3	**0.0788**	13.0	84.6	**0.0776**	12.7
5	91.3	**0.0819**	13.9	89.6	**0.0807**	13.6	87.9	**0.0796**	13.3	86.2	**0.0784**	12.9	84.6	**0.0772**	12.6
4	91.2	**0.0815**	13.8	89.5	**0.0803**	13.5	87.9	**0.0792**	13.2	86.2	**0.0780**	12.8	84.5	**0.0768**	12.5
3	91.2	**0.0811**	13.7	89.5	**0.0799**	13.4	87.8	**0.0788**	13.1	86.1	**0.0776**	12.7	84.4	**0.0764**	12.4
2	91.2	**0.0807**	13.6	89.5	**0.0795**	13.3	87.8	**0.0784**	13.0	86.1	**0.0772**	12.6	84.3	**0.0760**	12.3
1	91.2	**0.0803**	13.5	89.4	**0.0791**	13.2	87.7	**0.0780**	12.9	86.0	**0.0768**	12.5	84.3	**0.0756**	12.2
0	91.2	**0.0799**	13.4	89.4	**0.0787**	13.1	87.7	**0.0776**	12.8	85.9	**0.0764**	12.4	84.2	**0.0753**	12.1
+14.9	91.2	**0.0796**	13.3	89.4	**0.0784**	12.9	87.7	**0.0773**	12.6	85.8	**0.0761**	12.2	84.1	**0.0750**	11.9
8	91.2	**0.0792**	13.2	89.4	**0.0780**	12.8	87.6	**0.0769**	12.5	85.8	**0.0757**	12.1	84.1	**0.0746**	11.8
7	91.1	**0.0788**	13.1	89.3	**0.0776**	12.7	87.6	**0.0765**	12.4	85.7	**0.0753**	12.0	84.0	**0.0742**	11.7
6	91.1	**0.0784**	13.0	89.3	**0.0772**	12.6	87.5	**0.0761**	12.3	85.7	**0.0749**	11.9	84.0	**0.0738**	11.6
5	91.0	**0.0780**	12.9	89.2	**0.0768**	12.5	87.5	**0.0757**	12.2	85.6	**0.0745**	11.8	83.9	**0.0734**	11.5
4	91.0	**0.0776**	12.8	89.2	**0.0764**	12.4	87.4	**0.0753**	12.1	85.6	**0.0741**	11.7	83.9	**0.0730**	11.4
3	90.9	**0.0772**	12.7	89.1	**0.0760**	12.3	87.4	**0.0749**	12.0	85.5	**0.0737**	11.6	83.8	**0.0726**	11.3
2	90.9	**0.0768**	12.6	89.1	**0.0756**	12.2	87.3	**0.0745**	11.9	85.5	**0.0733**	11.5	83.8	**0.0722**	11.2
1	90.8	**0.0764**	12.5	89.0	**0.0752**	12.1	87.3	**0.0741**	11.8	85.4	**0.0729**	11.4	83.7	**0.0718**	11.1
0	90.8	**0.0761**	12.4	89.0	**0.0749**	12.0	87.2	**0.0738**	11.7	85.4	**0.0726**	11.3	83.7	**0.0715**	11.0

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.0			1°.1			1°.2			1°.3			1°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+16°.9	83.6	**0.0818**	13.9	82.1	**0.0806**	13.6	80.5	**0.0794**	13.2	79.0	**0.0783**	12.9	77.4	**0.0771**	12.6
8	83.5	**0.0813**	13.7	82.1	**0.0802**	13.4	80.4	**0.0790**	13.0	78.9	**0.0779**	12.7	77.3	**0.0767**	12.4
7	83.5	**0.0808**	13.6	82.0	**0.0798**	13.3	80.3	**0.0786**	12.9	78.8	**0.0775**	12.6	77.2	**0.0763**	12.3
6	83.4	**0.0804**	13.5	81.9	**0.0794**	13.2	80.2	**0.0782**	12.8	78.7	**0.0771**	12.5	77.1	**0.0759**	12.2
5	83.4	**0.0800**	13.4	81.8	**0.0790**	13.1	80.1	**0.0778**	12.7	78.6	**0.0767**	12.4	77.0	**0.0755**	12.1
4	83.3	**0.0796**	13.3	81.7	**0.0786**	13.0	80.0	**0.0774**	12.6	78.5	**0.0763**	12.3	77.0	**0.0751**	12.0
3	83.3	**0.0792**	13.2	81.7	**0.0782**	12.9	79.9	**0.0770**	12.5	78.4	**0.0759**	12.2	76.9	**0.0747**	11.9
2	83.2	**0.0788**	13.1	81.6	**0.0778**	12.8	79.9	**0.0766**	12.4	78.3	**0.0755**	12.1	76.9	**0.0743**	11.8
1	83.2	**0.0784**	13.0	81.6	**0.0774**	12.7	79.8	**0.0762**	12.3	78.2	**0.0751**	12.0	76.8	**0.0739**	11.7
0	83.1	**0.0780**	12.9	81.5	**0.0769**	12.6	79.8	**0.0757**	12.2	78.2	**0.0746**	11.9	76.8	**0.0734**	11.6
+15.9	83.1	**0.0776**	12.7	81.5	**0.0765**	12.4	79.7	**0.0753**	12.0	78.1	**0.0742**	11.7	76.7	**0.0730**	11.4
8	83.0	**0.0772**	12.6	81.4	**0.0761**	12.2	79.7	**0.0749**	11.8	78.1	**0.0738**	11.5	76.7	**0.0726**	11.2
7	83.0	**0.0768**	12.5	81.4	**0.0757**	12.1	79.6	**0.0745**	11.7	78.0	**0.0734**	11.4	76.6	**0.0722**	11.0
6	82.9	**0.0764**	12.4	81.3	**0.0753**	12.0	79.6	**0.0741**	11.6	78.0	**0.0730**	11.3	76.5	**0.0718**	10.9
5	82.9	**0.0760**	12.3	81.3	**0.0749**	11.9	79.5	**0.0737**	11.5	77.9	**0.0726**	11.2	76.4	**0.0714**	10.8
4	82.8	**0.0756**	12.2	81.2	**0.0745**	11.8	79.5	**0.0733**	11.4	77.9	**0.0722**	11.1	76.3	**0.0710**	10.7
3	82.8	**0.0752**	12.1	81.2	**0.0741**	11.7	79.4	**0.0729**	11.3	77.8	**0.0718**	11.0	76.2	**0.0706**	10.6
2	82.7	**0.0748**	12.0	81.1	**0.0737**	11.6	79.4	**0.0725**	11.2	77.8	**0.0714**	10.9	76.1	**0.0702**	10.5
1	82.6	**0.0744**	11.9	81.0	**0.0733**	11.5	79.3	**0.0721**	11.1	77.7	**0.0710**	10.8	76.0	**0.0698**	10.4
0	82.5	**0.0741**	11.8	80.9	**0.0729**	11.4	79.2	**0.0717**	11.0	77.6	**0.0706**	10.7	76.0	**0.0694**	10.3
+14.9	82.4	**0.0738**	11.6	80.8	**0.0726**	11.2	79.1	**0.0713**	10.8	77.5	**0.0702**	10.5	75.9	**0.0690**	10.1
8	82.3	**0.0734**	11.4	80.7	**0.0722**	11.0	79.1	**0.0709**	10.6	77.5	**0.0698**	10.3	75.8	**0.0686**	9.9
7	82.2	**0.0730**	11.3	80.6	**0.0718**	10.9	79.0	**0.0705**	10.5	77.4	**0.0694**	10.2	75.7	**0.0682**	9.7
6	82.2	**0.0726**	11.2	80.5	**0.0714**	10.8	79.0	**0.0701**	10.4	77.4	**0.0690**	10.1	75.6	**0.0678**	9.6
5	82.1	**0.0722**	11.1	80.4	**0.0710**	10.7	78.9	**0.0697**	10.3	77.3	**0.0686**	10.0	75.5	**0.0674**	9.5
4	82.1	**0.0718**	11.0	80.4	**0.0706**	10.6	78.9	**0.0693**	10.2	77.2	**0.0682**	9.9	75.4	**0.0670**	9.4
3	82.0	**0.0714**	10.9	80.3	**0.0702**	10.5	78.8	**0.0689**	10.1	77.1	**0.0678**	9.8	75.3	**0.0666**	9.3
2	82.0	**0.0710**	10.8	80.3	**0.0698**	10.4	78.7	**0.0685**	10.0	77.0	**0.0674**	9.7	75.2	**0.0662**	9.2
1	81.9	**0.0706**	10.7	80.2	**0.0694**	10.3	78.6	**0.0682**	9.9	76.9	**0.0671**	9.6	75.1	**0.0659**	9.1
0	81.9	**0.0703**	10.6	80.2	**0.0691**	10.2	78.5	**0.0679**	9.8	76.8	**0.0668**	9.4	75.1	**0.0656**	9.0

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.5			1°.6			1°.7			1°.8			1°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+16°.9	76.0	**0.0760**	12.3	74.4	**0.0749**	11.9	72.9	**0.0736**	11.6	71.4	**0.0725**	11.3	70.0	**0.0714**	10.9
8	76.0	**0.0755**	12.1	74.3	**0.0744**	11.7	72.8	**0.0731**	11.4	71.4	**0.0720**	11.1	69.9	**0.0709**	10.7
7	75.9	**0.0750**	11.9	74.3	**0.0739**	11.6	72.8	**0.0727**	11.2	71.3	**0.0716**	11.0	69.8	**0.0704**	10.5
6	75.8	**0.0746**	11.8	74.2	**0.0735**	11.5	72.7	**0.0723**	11.1	71.2	**0.0712**	10.9	69.7	**0.0700**	10.4
5	75.8	**0.0742**	11.7	74.1	**0.0731**	11.4	72.6	**0.0719**	11.0	71.1	**0.0708**	10.8	69.6	**0.0696**	10.3
4	75.7	**0.0738**	11.6	74.1	**0.0727**	11.3	72.6	**0.0715**	10.9	71.0	**0.0704**	10.7	69.5	**0.0692**	10.2
3	75.6	**0.0734**	11.5	74.0	**0.0723**	11.2	72.5	**0.0711**	10.8	70.9	**0.0700**	10.6	69.4	**0.0688**	10.1
2	75.5	**0.0730**	11.4	73.9	**0.0719**	11.1	72.4	**0.0707**	10.7	70.8	**0.0696**	10.5	69.3	**0.0684**	10.0
1	75.4	**0.0726**	11.3	73.8	**0.0715**	11.0	72.3	**0.0703**	10.6	70.7	**0.0692**	10.3	69.2	**0.0680**	9.9
0	75.3	**0.0722**	11.2	73.7	**0.0711**	10.9	72.2	**0.0699**	10.5	70.6	**0.0688**	10.1	69.1	**0.0676**	9.7
+15.9	75.2	**0.0718**	11.0	73.7	**0.0707**	10.7	72.2	**0.0695**	10.3	70.6	**0.0684**	9.9	69.0	**0.0672**	9.5
8	75.1	**0.0714**	10.8	73.6	**0.0703**	10.5	72.1	**0.0691**	10.1	70.5	**0.0680**	9.7	68.9	**0.0668**	9.3
7	75.0	**0.0710**	10.7	73.5	**0.0699**	10.3	72.0	**0.0687**	9.9	70.4	**0.0676**	9.5	68.8	**0.0664**	9.1
6	74.9	**0.0706**	10.6	73.4	**0.0695**	10.1	71.9	**0.0683**	9.7	70.3	**0.0672**	9.3	68.7	**0.0660**	8.9
5	74.8	**0.0702**	10.5	73.3	**0.0691**	10.0	71.8	**0.0679**	9.6	70.2	**0.0668**	9.2	68.6	**0.0656**	8.8
4	74.8	**0.0698**	10.4	73.2	**0.0687**	9.9	71.7	**0.0675**	9.5	70.1	**0.0664**	9.1	68.5	**0.0652**	8.7
3	74.7	**0.0694**	10.3	73.1	**0.0683**	9.8	71.6	**0.0671**	9.4	70.0	**0.0660**	9.0	68.4	**0.0648**	8.6
2	74.7	**0.0690**	10.2	73.0	**0.0679**	9.7	71.5	**0.0667**	9.3	69.9	**0.0656**	8.9	68.3	**0.0644**	8.5
1	74.6	**0.0686**	10.1	72.9	**0.0675**	9.6	71.4	**0.0663**	9.2	69.8	**0.0652**	8.8	68.2	**0.0640**	8.4
0	74.5	**0.0682**	9.9	72.9	**0.0671**	9.5	71.3	**0.0659**	9.1	69.7	**0.0648**	8.7	68.1	**0.0636**	8.3
+14.9	74.4	**0.0679**	9.7	72.8	**0.0668**	9.3	71.2	**0.0656**	8.9	69.6	**0.0645**	8.5	68.0	**0.0633**	8.1
8	74.3	**0.0676**	9.5	72.7	**0.0665**	9.1	71.1	**0.0653**	8.7	69.5	**0.0642**	8.3	67.8	**0.0630**	7.9
7	74.2	**0.0672**	9.3	72.6	**0.0661**	8.9	71.0	**0.0649**	8.5	69.4	**0.0638**	8.1	67.7	**0.0626**	7.7
6	74.1	**0.0668**	9.2	72.5	**0.0657**	8.8	70.9	**0.0645**	8.4	69.3	**0.0634**	8.0	67.6	**0.0622**	7.6
5	74.0	**0.0664**	9.1	72.4	**0.0653**	8.7	70.8	**0.0641**	8.3	69.2	**0.0630**	7.9	67.5	**0.0618**	7.5
4	73.9	**0.0660**	9.0	72.3	**0.0649**	8.6	70.7	**0.0637**	8.2	69.1	**0.0626**	7.8	67.4	**0.0614**	7.4
3	73.8	**0.0656**	8.9	72.2	**0.0645**	8.5	70.6	**0.0633**	8.1	69.0	**0.0622**	7.7	67.3	**0.0610**	7.3
2	73.7	**0.0652**	8.8	72.1	**0.0641**	8.4	70.5	**0.0629**	8.9	68.9	**0.0618**	7.6	67.2	**0.0606**	7.2
1	73.6	**0.0648**	8.7	72.0	**0.0637**	8.3	70.4	**0.0625**	7.9	68.8	**0.0614**	7.5	67.1	**0.0602**	7.1
0	73.5	**0.0644**	8.6	71.9	**0.0633**	8.2	70.3	**0.0621**	7.8	68.7	**0.0610**	7.4	67.0	**0.0598**	7.0

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS. 0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+13°.9	......	**0.0815**	......	98.2	**0.0804**	13.6	96.3	**0.0792**	13.2	94.5	**0.0780**	12.9	92.6	**0.0768**	12.5
8	......	**0.0812**	......	98.2	**0.0801**	13.5	96.3	**0.0789**	13.1	94.5	**0.0777**	12.8	92.6	**0.0765**	12.4
7	......	**0.0809**	......	98.2	**0.0798**	13.4	96.3	**0.0786**	13.0	94.5	**0.6773**	12.7	92.6	**0.6761**	12.3
6	......	**0.0805**	......	98.2	**0.0794**	13.3	96.3	**0.0782**	12.9	94.5	**0.0770**	12.6	92.6	**0.0758**	12.2
5	......	**0.0801**	......	98.2	**0.0790**	13.2	96.3	**0.0778**	12.8	94.4	**0.0766**	12.5	92.5	**0.0754**	12.1
4	......	**0.0797**	......	98.2	**0.0786**	13.1	96.3	**0.0774**	12.7	94.4	**0.0763**	12.4	92.5	**0.0751**	12.0
3	......	**0.0793**	......	98.2	**0.0782**	13.0	96.3	**0.0770**	12.6	94.4	**0.0759**	12.3	92.5	**0.0747**	11.9
2	......	**0.0789**	......	98.2	**0.0778**	12.9	96.3	**0.0766**	12.5	94.4	**0.0756**	12.2	92.5	**0.0744**	11.8
1	......	**0.0786**	......	98.2	**0.0775**	12.8	96.3	**0.0763**	12.4	94.4	**0.0752**	12.1	92.5	**0.0740**	11.7
0	......	**0.0783**	......	98.1	**0.0772**	12.7	96.2	**0.0760**	12.3	94.3	**0.0749**	12.0	92.4	**0.0737**	11.6
+12.9	......	**0.0779**	......	98.1	**0.0768**	12.6	96.2	**0.0756**	12.2	94.3	**0.0745**	11.9	92.4	**0.0733**	11.5
8	......	**0.0776**	......	98.1	**0.0765**	12.5	96.2	**0.0752**	12.1	94.3	**0.0741**	11.8	92.4	**0.0730**	11.4
7	......	**0.0772**	......	98.1	**0.0761**	12.4	96.2	**0.0749**	12.0	94.3	**0.0738**	11.7	92.4	**0.0726**	11.3
6	......	**0.0769**	......	98.1	**0.0758**	12.3	96.2	**0.0746**	11.9	94.3	**0.0735**	11.6	92.4	**0.0723**	11.2
5	......	**0.0765**	......	98.1	**0.0754**	12.2	96.2	**0.0742**	11.8	94.3	**0.0731**	11.5	92.3	**0.0719**	11.1
4	......	**0.0762**	......	98.1	**0.0751**	12.1	96.2	**0.0739**	11.7	94.3	**0.0728**	11.4	92.3	**0.0716**	11.0
3	......	**0.0758**	......	98.1	**0.0747**	12.0	96.2	**0.0735**	11.6	94.3	**0.0724**	11.3	92.3	**0.0712**	10.9
2	......	**0.0755**	......	98.1	**0.0744**	11.9	96.2	**0.0732**	11.5	94.3	**0.0721**	11.2	92.3	**0.0709**	10.8
1	......	**0.0751**	......	98.1	**0.0740**	11.8	96.2	**0.0728**	11.4	94.3	**0.0717**	11.1	92.3	**0.0705**	10.7
0	......	**0.0748**	......	98.1	**0.0737**	11.7	96.1	**0.0725**	11.3	94.2	**0.0714**	11.0	92.2	**0.0702**	10.6
+11.9	......	**0.0744**	......	98.1	**0.0733**	11.6	96.1	**0.0721**	11.2	94.2	**0.0710**	10.8	92.2	**0.0698**	10.4
8	......	**0.0741**	......	98.1	**0.0730**	11.5	96.1	**0.0718**	11.1	94.2	**0.0707**	10.7	92.2	**0.0695**	10.3
7	......	**0.0738**	......	98.1	**0.0727**	11.4	96.1	**0.0715**	11.0	94.2	**0.0704**	10.6	92.2	**0.0692**	10.2
6	......	**0.0735**	......	98.1	**0.0724**	11.3	96.1	**0.0712**	10.9	94.2	**0.0701**	10.5	92.2	**0.0689**	10.1
5	......	**0.0732**	......	98.0	**0.0721**	11.2	96.1	**0.0709**	10.8	94.1	**0.0698**	10.4	92.1	**0.0686**	10.0
4	......	**0.0729**	......	98.0	**0.0718**	11.1	96.1	**0.0706**	10.7	94.1	**0.0695**	10.3	92.1	**0.0683**	9.9
3	......	**0.0726**	......	98.0	**0.0715**	10.9	96.1	**0.0703**	10.6	94.1	**0.0692**	10.2	92.1	**0.0680**	9.8
2	......	**0.0723**	......	98.0	**0.0712**	10.8	96.1	**0.0700**	10.5	94.1	**0.0689**	10.1	92.1	**0.0677**	9.7
1	......	**0.0719**	......	98.0	**0.0708**	10.7	96.1	**0.0696**	10.4	94.1	**0.0685**	10.0	92.1	**0.0673**	9.6
0	......	**0.0715**	......	98.0	**0.0704**	10.6	96.0	**0.0692**	10.3	94.0	**0.0681**	9.9	92.0	**0.0669**	9.5

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+13°.9	90.8	**0.0757**	12.2	89.0	**0.0745**	11.8	87.2	**0.0734**	11.5	85.4	**0.0722**	11.1	83.7	**0.0711**	10.7
8	90.8	**0.0753**	12.1	89.0	**0.0742**	11.7	87.1	**0.0731**	11.4	85.4	**0.0719**	11.0	83.7	**0.0708**	10.6
7	90.8	**0.0749**	12.0	88.9	**0.0739**	11.6	87.1	**0.0728**	11.3	85.3	**0.0716**	10.9	83.6	**0.0705**	10.5
6	90.8	**0.0746**	11.9	88.9	**0.0735**	11.5	87.1	**0.0724**	11.2	85.3	**0.0712**	10.8	83.5	**0.0701**	10.4
5	90.7	**0.0742**	11.8	88.9	**0.0731**	11.4	87.1	**0.0720**	11.1	85.2	**0.0708**	10.7	83.5	**0.0697**	10.3
4	90.7	**0.0739**	11.7	88.8	**0.0727**	11.3	87.0	**0.0716**	11.0	85.2	**0.0704**	10.6	83.4	**0.0693**	10.2
3	90.7	**0.0735**	11.6	88.8	**0.0723**	11.2	87.0	**0.0712**	10.9	85.1	**0.0700**	10.5	83.4	**0.0689**	10.1
2	90.7	**0.0732**	11.5	88.8	**0.0719**	11.1	87.0	**0.0708**	10.8	85.1	**0.0696**	10.4	83.3	**0.0685**	10.0
1	90.7	**0.0728**	11.4	88.8	**0.0716**	11.0	87.0	**0.0705**	10.7	85.0	**0.0693**	10.3	83.3	**0.0682**	9.9
0	90.6	**0.0725**	11.3	88.7	**0.0713**	10.9	86.9	**0.0702**	10.6	85.0	**0.0690**	10.2	83.2	**0.0679**	9.8
+12.9	90.6	**0.0721**	11.1	88.7	**0.0709**	10.7	86.9	**0.0698**	10.3	84.9	**0.0686**	9.9	83.2	**0.0675**	9.6
8	90.6	**0.0718**	11.0	88.7	**0.0706**	10.6	86.8	**0.0695**	10.2	84.9	**0.0683**	9.8	83.1	**0.0672**	9.5
7	90.5	**0.0714**	10.9	88.6	**0.0702**	10.5	86.8	**0.0691**	10.1	84.8	**0.0679**	9.7	83.1	**0.0668**	9.4
6	90.5	**0.0711**	10.8	88.6	**0.0699**	10.4	86.7	**0.0688**	10.0	84.8	**0.0676**	9.6	83.0	**0.0665**	9.3
5	90.5	**0.0707**	10.7	88.5	**0.0695**	10.3	86.7	**0.0684**	9.9	84.7	**0.0672**	9.5	83.0	**0.0661**	9.2
4	90.4	**0.0704**	10.6	88.5	**0.0692**	10.2	86.6	**0.0681**	9.8	84.7	**0.0669**	9.4	82.9	**0.0658**	9.1
3	90.4	**0.0700**	10.5	88.4	**0.0688**	10.1	86.6	**0.0677**	9.7	84.6	**0.0665**	9.3	82.9	**0.0654**	9.0
2	90.4	**0.0697**	10.4	88.4	**0.0685**	10.0	86.5	**0.0674**	9.6	84.6	**0.0662**	9.2	82.8	**0.0651**	8.9
1	90.3	**0.0693**	10.3	88.3	**0.0681**	9.9	86.5	**0.0670**	9.5	84.5	**0.0658**	9.1	82.8	**0.0647**	8.8
0	90.3	**0.0690**	10.2	88.3	**0.0678**	9.8	86.4	**0.0667**	9.4	84.5	**0.0655**	9.0	82.7	**0.0644**	8.7
+11.9	90.3	**0.0686**	10.0	88.3	**0.0674**	9.6	86.4	**0.0663**	9.2	84.4	**0.0651**	8.8	82.7	**0.0640**	8.4
8	90.2	**0.0683**	9.9	88.2	**0.0671**	9.5	86.4	**0.0660**	9.1	84.4	**0.0648**	8.7	82.6	**0.0637**	8.3
7	90.2	**0.0680**	9.8	88.2	**0 0668**	9.4	86.3	**0.0657**	9.0	84.3	**0.0645**	8.6	82.6	**0.0634**	8.2
6	90.2	**0.0677**	9.7	88.2	**0.0665**	9.3	86.3	**0.0654**	8.9	84.3	**0.0642**	8.5	82.5	**0.0631**	8.1
5	90.2	**0.0674**	9.6	88.1	**0.0662**	9.2	86.2	**0.0651**	8.8	84.2	**0.0639**	8.4	82.5	**0.0628**	8.0
4	90.1	**0.0671**	9.5	88.1	**0.0659**	9.1	86.2	**0.0648**	8.7	84.2	**0.0636**	8.3	82.4	**0.0625**	7.9
3	90.1	**0.0668**	9.4	88.1	**0.0656**	9.0	86.1	**0.0645**	8.6	84.1	**0.0633**	8.2	82.3	**0.0622**	7.8
2	90.1	**0.0665**	9.3	88.0	**0.0653**	8.9	86.1	**0.0642**	8.5	84.1	**0.0630**	8.1	82.3	**0.0619**	7.7
1	90.1	**0.0661**	9.2	88.0	**0.0649**	8.8	86.0	**0.0638**	8.4	84.0	**0.0626**	8.0	82.2	**0.0615**	7.6
0	90.0	**0.0657**	9.1	88.0	**0.0645**	8.7	86.0	**0.0634**	8.3	84.0	**0.0622**	7.9	82.1	**0.0611**	7.5

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.0			1°.1			1°.2			1°.3			1°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+13°.9	81.9	**0.0699**	10.4	80.2	**0.0687**	10.0	78.5	**0.0676**	9.6	76.8	**0.0664**	9.2	75.1	**0.0652**	8.8
8	81.9	**0.0695**	10.2	80.1	**0.0684**	9.8	78.4	**0.0672**	9.4	76.7	**0.0661**	9.0	75.0	**0.0648**	8.6
7	81.8	**0.0691**	10.1	80.1	**0.0680**	9.7	78.4	**0.0669**	9.3	76.7	**0.0657**	8.9	75.0	**0.0645**	8.5
6	81.8	**0.0687**	10.0	80.0	**0.0677**	9.6	78.3	**0.0665**	9.2	76.6	**0.0654**	8.8	74.9	**0.0641**	8.4
5	81.7	**0.0683**	9.9	80.0	**0.0673**	9.5	78.3	**0.0662**	9.1	76.6	**0.0650**	8.7	74.8	**0.0638**	8.3
4	81.7	**0.0679**	9.8	79.9	**0.0670**	9.4	78.2	**0.0658**	9.0	76.5	**0.0647**	8.6	74.7	**0.0635**	8.2
3	81.6	**0.0676**	9.7	79.9	**0.0666**	9.3	78.1	**0.0655**	8.9	76.4	**0.0643**	8.5	74.6	**0.0631**	8.1
2	81.6	**0.0673**	9.6	79.8	**0.0663**	9.2	78.0	**0.0651**	8.8	76.3	**0.0640**	8.4	74.5	**0.0628**	8.0
1	81.5	**0.0670**	9.5	79.7	**0.0659**	9.1	77.9	**0.0648**	8.7	76.2	**0.0636**	8.3	74.4	**0.0624**	7.9
0	81.4	**0.0667**	9.4	79.6	**0.0656**	9.0	77.8	**0.0644**	8.6	76.1	**0.0633**	8.2	74.3	**0.0621**	7.8
+12.9	81.3	**0.0664**	9.2	79.5	**0.0653**	8.8	77.7	**0.0641**	8.4	76.1	**0.0629**	8.0	74.2	**0.0617**	7.6
8	81.3	**0.0660**	9.0	79.5	**0.0649**	8.6	77.6	**0.0638**	8.2	76.0	**0.0626**	7.8	74.1	**0.0614**	7.4
7	81.2	**0.0657**	8.9	79.4	**0.0645**	8.5	77.5	**0.0634**	8.1	76.0	**0.0622**	7.7	74.0	**0.0610**	7.3
6	81.2	**0.0653**	8.8	79.4	**0.0642**	8.4	77.4	**0.0630**	8.0	75.9	**0.0619**	7.6	74.0	**0.0607**	7.2
5	81.1	**0.0650**	8.7	79.3	**0.0638**	8.3	77.3	**0.0627**	7.9	75.8	**0.0615**	7.5	73.9	**0.0603**	7.1
4	81.1	**0.0646**	8.6	79.3	**0.0635**	8.2	77.3	**0.0623**	7.8	75.7	**0.0612**	7.4	73.8	**0.0600**	7.0
3	81.0	**0.0643**	8.5	79.2	**0.0631**	8.1	77.2	**0.0620**	7.7	75.6	**0.0608**	7.3	73.7	**0.0596**	6.9
2	81.0	**0.0639**	8.4	79.2	**0.0628**	8.0	77.2	**0.0616**	7.6	75.5	**0.0605**	7.2	73.6	**0.0593**	6.8
1	80.9	**0.0636**	8.3	79.1	**0.0624**	7.9	77.1	**0.0613**	7.5	75.4	**0.0601**	7.1	73.5	**0.0589**	6.7
0	80.8	**0.0632**	8.2	79.0	**0.0621**	7.8	77.1	**0.0609**	7.4	75.3	**0.0598**	7.0	73.5	**0.0586**	6.6
+11.9	80.7	**0.0628**	8.0	78.9	**0.0617**	7.6	77.0	**0.0606**	7.2	75.2	**0.0595**	6.8	73.5	**0.0583**	6.4
8	80.7	**0.0625**	7.8	78.9	**0.0614**	7.4	77.0	**0.0603**	7.0	75.1	**0.0592**	6.6	73.4	**0.0580**	6.2
7	80.6	**0.0622**	7.7	78.8	**0.0611**	7.3	76.9	**0.0600**	6.9	75.0	**0.0589**	6.5	73.3	**0.0577**	6.1
6	80.6	**0.0619**	7.6	78.8	**0.0608**	7.2	76.9	**0.0597**	6.8	74.9	**0.0586**	6.4	73.2	**0.0574**	6.0
5	80.5	**0.0616**	7.5	78.7	**0.0605**	7.1	76.8	**0.0594**	6.7	74.8	**0.0583**	6.3	73.1	**0.0571**	5.9
4	80.5	**0.0613**	7.4	78.7	**0.0602**	7.0	76.7	**0.0591**	6.6	74.7	**0.0580**	6.2	73.0	**0.0568**	5.8
3	80.4	**0.0610**	7.3	78.6	**0.0599**	6.9	76.6	**0.0588**	6.5	74.6	**0.0577**	6.1	72.9	**0.0564**	5.7
2	80.4	**0.0607**	7.2	78.5	**0.0596**	6.8	76.5	**0.0584**	6.4	74.6	**0.0573**	6.0	72.8	**0.0560**	5.6
1	80.3	**0.0603**	7.1	78.4	**0.0592**	6.7	76.4	**0.0580**	6.3	74.5	**0.0569**	5.9	72.7	**0.0556**	5.5
0	80.2	**0.0599**	7.0	78.3	**0.0588**	6.6	76.3	**0.0576**	6.2	74.5	**0.0565**	5.8	76.6	**0.0553**	5.3

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.5			1°.6			1°.7			1°.8			1°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+13°.9	73.4	**0.0640**	8.4	71.8	**0.0630**	8.0	70.2	**0.0617**	7.6	68.6	**0.0606**	7.2	66.9	**0.0594**	6.8
8	73.4	**0.0636**	8.2	71.8	**0.0626**	7.9	70.1	**0.0613**	7.4	68.4	**0.0602**	7.0	66.7	**0.0590**	6.6
7	73.3	**0.0632**	8.1	71.7	**0.0622**	7.8	70.0	**0.0610**	7.3	68.3	**0.0599**	6.9	66.6	**0.0587**	6.4
6	73.3	**0.0628**	8.0	71.6	**0.0618**	7.7	69.9	**0.0606**	7.2	68.2	**0.0595**	6.8	66.5	**0.0583**	6.3
5	73.2	**0.0624**	7.9	71.5	**0.0615**	7.6	69.8	**0.0603**	7.1	68.1	**0.0592**	6.7	66.4	**0.0580**	6.2
4	73.2	**0.0621**	7.8	71.4	**0.0612**	7.5	69.7	**0.0600**	7.0	68.0	**0.0589**	6.6	66.3	**0.0576**	6.1
3	73.1	**0.0618**	7.7	71.3	**0.0609**	7.4	69.6	**0.0596**	6.9	67.9	**0.0585**	6.5	66.2	**0.0573**	6.0
2	73.0	**0.0615**	7.6	71.2	**0.0606**	7.3	69.5	**0.0592**	6.8	67.8	**0.0582**	6.4	66.1	**0.0569**	5.9
1	72.9	**0.0612**	7.5	71.1	**0.0602**	7.2	69.4	**0.0589**	6.7	67.7	**0.0578**	6.3	66.0	**0.0566**	5.8
0	72.7	**0.0609**	7.4	71.0	**0.0597**	7.0	69.3	**0.0586**	6.6	67.6	**0.0574**	6.2	65.9	**0.0562**	5.7
+12.9	72.7	**0.0606**	7.2	70.9	**0.0593**	6.8	69.2	**0.0582**	6.4	67.5	**0.0570**	6.0	65.7	**0.0558**	5.6
8	72.6	**0.0602**	7.0	70.8	**0.0590**	6.6	69.1	**0.0579**	6.2	67.3	**0.0567**	5.9	65.5	**0.0554**	5.4
7	72.5	**0.0598**	6.9	70.7	**0.0586**	6.4	69.0	**0.0575**	6.0	67.2	**0.0564**	5.7	65.4	**0.0551**	5.3
6	72.4	**0.0594**	6.8	70.6	**0.0583**	6.3	68.9	**0.0572**	5.9	67.1	**0.0560**	5.6	65.3	**0.0547**	5.1
5	72.3	**0.0590**	6.7	70.5	**0.0580**	6.2	68.8	**0.0569**	5.8	67.0	**0.0557**	5.4	65.2	**0.0544**	5.0
4	72.2	**0.0586**	6.6	70.4	**0.0576**	6.1	68.7	**0.0565**	5.7	66.9	**0.0554**	5.3	65.1	**0.0540**	4.9
3	72.1	**0.0583**	6.5	70.3	**0.0573**	6.0	68.6	**0.0562**	5.6	66.8	**0.0550**	5.1	65.0	**0.0537**	4.7
2	72.0	**0.0580**	6.4	70.2	**0.0570**	5.9	68.5	**0.0559**	5.5	66.7	**0.0547**	5.0	64.9	**0.0533**	4.6
1	71.9	**0.0577**	6.3	70.1	**0.0566**	5.8	68.4	**0.0555**	5.4	66.6	**0.0543**	4.8	64.8	**0.0530**	4.4
0	71.8	**0.0574**	6.2	70.0	**0.0563**	5.7	68.3	**0.0551**	5.2	66.5	**0.0539**	4.7	64.7	**0.0527**	4.3
+11.9	71.7	**0.0570**	6.1	69.9	**0.0560**	5.5	68.1	**0.0547**	5.0	66.3	**0.0535**	4.5	64.5	**0.0523**	4.1
8	71.6	**0.0567**	6.0	69.8	**0.0556**	5.3	68.0	**0.0543**	4.8	66.2	**0.0531**	4.3	64.3	**0.0520**	3.9
7	71.5	**0.0564**	5.8	69.7	**0.0552**	5.1	67.9	**0.0540**	4.6	66.1	**0.0527**	4.1	64.2	**0.0516**	3.7
6	71.4	**0.0560**	5.7	69.6	**0.0548**	5.0	67.8	**0.0537**	4.5	66.0	**0.0524**	4.0	64.1	**0.0513**	3.5
5	71.3	**0.0557**	5.5	69.5	**0.0544**	4.9	67.7	**0.0534**	4.4	65.9	**0.0521**	3.9	64.0	**0.0510**	3.4
4	71.2	**0.0554**	5.4	69.4	**0.0541**	4.8	67.6	**0.0531**	4.3	65.8	**0.0518**	3.8	63.9	**0.0507**	3.3
3	71.1	**0.0550**	5.2	69.3	**0.0538**	4.7	67.5	**0.0528**	4.2	65.7	**0.0515**	3.7	63.8	**0.0504**	3.2
2	71.0	**0.0547**	5.1	69.2	**0.0535**	4.6	67.4	**0.0525**	4.1	65.6	**0.0512**	3.6	63.7	**0.0501**	3.1
1	70.9	**0.0544**	4.9	69.1	**0.0532**	4.5	67.3	**0.0522**	4.0	65.5	**0.0509**	3.5	63.6	**0.0498**	3.0
0	70.8	**0.0541**	4.8	69.0	**0.0530**	4.4	67.2	**0.0518**	3.9	65.4	**0.0506**	3.4	63.5	**0.0495**	2.9

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+10°.9	......	**0.0711**	......	98.0	**0.0700**	10.5	96.0	**0.0688**	10.1	94.0	**0.0677**	9.8	92.0	**0.0665**	9.3
8	......	**0.0708**	......	98.0	**0.0697**	10.4	96.0	**0.0685**	10.0	94.0	**0.0674**	9.7	92.0	**0.0662**	9.2
7	......	**0.0705**	......	98.0	**0.0694**	10.3	95.9	**0.0682**	9.9	93.9	**0.0671**	9.6	91.9	**0.0659**	9.1
6	......	**0.0702**	......	98.0	**0.0691**	10.2	95.9	**0.0679**	9.8	93.9	**0.0668**	9.5	91.9	**0.0656**	9.0
5	......	**0.0699**	......	98.0	**0.0688**	10.1	95.9	**0.0676**	9.7	93.9	**0.0665**	9.4	91.9	**0.0653**	8.9
4	......	**0.0696**	......	98.0	**0.0685**	10.0	95.9	**0.0673**	9.6	93.9	**0.0662**	9.3	91.8	**0.0650**	8.8
3	......	**0.0693**	......	98.0	**0.0682**	9.9	95.9	**0.0670**	9.5	93.9	**0.0659**	9.2	91.8	**0.0647**	8.7
2	......	**0.0690**	......	98.0	**0.0679**	9.8	95.9	**0.0667**	9.4	93.9	**0.0656**	9.1	91.8	**0.0644**	8.6
1	......	**0.0687**	......	98.0	**0.0676**	9.7	95.9	**0.0664**	9.3	93.9	**0.0653**	9.0	91.7	**0.0641**	8.5
0	......	**0.0684**	......	97.9	**0.0673**	9.6	95.8	**0.0661**	9.2	93.8	**0.0650**	8.9	91.7	**0.0638**	8.4
+ 9.9	......	**0.0682**	......	97.9	**0.0671**	9.5	95.8	**0.0659**	9.1	93.8	**0.0648**	8.7	91.7	**0.0636**	8.3
8	......	**0.0679**	......	97.9	**0.0668**	9.4	95.8	**0.0656**	9.0	93.8	**0.0645**	8.6	91.7	**0.0633**	8.2
7	......	**0.0676**	......	97.9	**0.0665**	9.3	95.8	**0.0653**	8.9	93.7	**0.0642**	8.5	91.6	**0.0630**	8.1
6	......	**0.0673**	......	97.9	**0.0662**	9.2	95.8	**0.0650**	8.8	93.7	**0.0639**	8.4	91.6	**0.0627**	8.0
5	......	**0.0670**	......	97.9	**0.0659**	9.1	95.7	**0.0647**	8.7	93.7	**0.0636**	8.3	91.5	**0.0624**	7.9
4	......	**0.0667**	......	97.9	**0.0656**	9.0	95.7	**0.0644**	8.6	93.6	**0.0633**	8.2	91.5	**0.0621**	7.8
3	......	**0.0664**	......	97.9	**0.0653**	8.9	95.7	**0.0641**	8.5	93.6	**0.0630**	8.1	91.4	**0.0618**	7.7
2	......	**0.0661**	......	97.9	**0.0650**	8.8	95.7	**0.0638**	8.4	93.6	**0.0627**	8.0	91.4	**0.0615**	7.6
1	......	**0.0658**	......	97.9	**0.0647**	8.7	95.7	**0.0635**	8.3	93.5	**0.0624**	7.9	91.3	**0.0612**	7.5
0	......	**0.0655**	......	97.8	**0.0644**	8.6	95.6	**0.0632**	8.2	93.5	**0.0621**	7.8	91.3	**0.0609**	7.4
+ 8.9	......	**0.0653**	......	97.8	**0.0642**	8.5	95.6	**0.0630**	8.1	93.5	**0.0619**	7.7	91.3	**0.0607**	7.2
8	......	**0.0650**	......	97.8	**0.0639**	8.4	95.6	**0.0627**	8.0	93.4	**0.0616**	7.6	91.2	**0.0604**	7.1
7	......	**0.0647**	......	97.8	**0.0636**	8.3	95.6	**0.0624**	7.9	93.4	**0.0613**	7.5	91.2	**0.0601**	7.0
6	......	**0.0644**	......	97.8	**0.0633**	8.2	95.6	**0.0621**	7.8	93.4	**0.0610**	7.4	91.2	**0.0598**	6.9
5	......	**0.0641**	......	97.8	**0.0630**	8.1	95.5	**0.0618**	7.7	93.3	**0.0607**	7.3	91.1	**0.0595**	6.8
4	......	**0.0638**	......	97.8	**0.0627**	8.0	95.5	**0.0615**	7.6	93.3	**0.0604**	7.2	91.1	**0.0592**	6.7
3	......	**0.0635**	......	97.8	**0.0624**	7.9	95.5	**0.0612**	7.5	93.3	**0.0601**	7.1	91.1	**0.0589**	6.6
2	......	**0.0632**	......	97.8	**0.0621**	7.8	95.5	**0.0609**	7.4	93.2	**0.0598**	7.0	91.0	**0.0586**	6.5
1	......	**0.0629**	......	97.8	**0.0618**	7.7	95.5	**0.0606**	7.3	93.2	**0.0595**	6.9	91.0	**0.0583**	6.4
0	......	**0.0626**	......	97.7	**0.0615**	7.6	95.4	**0.0603**	7.2	93.2	**0.0592**	6.8	90.9	**0.0580**	6.3

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+10°.9	90.0	**0.0654**	8.9	88.0	**0.0642**	8.5	86.0	**0.0630**	8.1	84.0	**0.0618**	7.6	82.1	**0.0607**	7.2
8	90.0	**0.0651**	8.8	88.0	**0.0639**	8.4	86.0	**0.0627**	8.0	83.9	**0.0615**	7.5	82.0	**0.0604**	7.1
7	89.9	**0.0648**	8.7	87.9	**0.0636**	8.3	85.9	**0.0624**	7.9	83.9	**0.0612**	7.4	81.9	**0.0601**	7.0
6	89.9	**0.0645**	8.6	87.9	**0.0633**	8.2	85.9	**0.0621**	7.8	83.8	**0.0609**	7.3	81.9	**0.0598**	6.9
5	89.9	**0.0642**	8.5	87.8	**0.0630**	8.1	85.8	**0.6618**	7.7	83.8	**0.6606**	7.2	81.8	**0.0595**	6.8
4	89.8	**0.0639**	8.4	87.8	**0.0627**	8.0	85.8	**0.0615**	7.6	83.7	**0.0603**	7.1	81.7	**0.0592**	6.7
3	89.8	**0.0636**	8.3	87.7	**0.0624**	7.9	85.7	**0.0612**	7.5	83.7	**0.0600**	7.0	81.7	**0.0589**	6.6
2	89.7	**0.0633**	8.2	87.7	**0.0621**	7.8	85.7	**0.0609**	7.4	83.6	**0.0597**	6.9	81.6	**0.0586**	6.5
1	89.7	**0.0630**	8.1	87.6	**0.0618**	7.7	85.6	**0.0606**	7.3	83.6	**0.0594**	6.8	81.6	**0.0583**	6.4
0	89.6	**0.0627**	8.0	87.6	**0.0615**	7.6	85.6	**0.0603**	7.2	83.5	**0.0591**	6.7	81.5	**0.0580**	6.3
+ 9.9	89.6	**0.0625**	7.9	87.5	**0.0612**	7.4	85.5	**0.0600**	7.0	83.5	**0.0588**	6.5	81.4	**0.0578**	6.1
8	89.6	**0.0622**	7.8	87.5	**0.0609**	7.3	85.5	**0.0597**	6.9	83.4	**0.0585**	6.4	81.3	**0.0575**	6.0
7	89.5	**0.0619**	7.7	87.4	**0.0606**	7.2	85.4	**0.0591**	6.8	83.3	**0.0582**	6.3	81.3	**0.0572**	5.9
6	89.5	**0.0616**	7.6	87.4	**0.0603**	7.1	85.4	**0.0591**	6.7	83.3	**0.0579**	6.2	81.2	**0.0569**	5.8
5	89.5	**0.0613**	7.5	87.3	**0.0600**	7.0	85.3	**0.0588**	6.6	83.2	**0.0576**	6.1	81.1	**0.0566**	5.7
4	89.4	**0.0610**	7.4	87.3	**0.0597**	6.9	85.3	**0.0585**	6.5	83.2	**0.0573**	6.0	81.1	**0.0563**	5.6
3	89.4	**0.0607**	7.3	87.2	**0.0594**	6.8	85.2	**0.0582**	6.4	83.1	**0.0570**	5.9	81.0	**0.0560**	5.5
2	89.3	**0.0601**	7.2	87.2	**0.0591**	6.7	85.2	**0.0579**	6.3	83.1	**0.0567**	5.8	80.9	**0.0557**	5.4
1	89.3	**0.0601**	7.1	87.1	**0.0588**	6.6	85.1	**0.0576**	6.2	83.0	**0.0561**	5.7	80.9	**0.0554**	5.3
0	89.2	**0.0598**	7.0	87.1	**0.0586**	6.5	85.0	**0.0574**	6.1	82.9	**0.0562**	5.6	80.8	**0.0551**	5.2
+ 8.9	89.2	**0.0596**	6.8	87.0	**0.0584**	6.3	85.0	**0.0572**	5.9	82.8	**0.0560**	5.4	80.8	**0.0549**	4.9
8	89.1	**0.0593**	6.7	87.0	**0.0581**	6.2	84.9	**0.0569**	5.8	82.7	**0.0557**	5.3	80.7	**0.0546**	4.8
7	89.1	**0.0590**	6.6	86.9	**0.0578**	6.1	84.9	**0.0566**	5.7	82.6	**0.0554**	5.2	80.6	**0.0543**	4.7
6	89.0	**0.0587**	6.5	86.9	**0.0575**	6.0	84.8	**0.0563**	5.6	82.6	**0.0551**	5.1	80.5	**0.0540**	4.6
5	89.0	**0.0584**	6.4	86.8	**0.0572**	5.9	84.8	**0.0560**	5.5	82.5	**0.0548**	5.0	80.4	**0.0537**	4.5
4	88.9	**0.0581**	6.3	86.8	**0.0569**	5.8	84.7	**0.0557**	5.4	82.4	**0.0545**	4.9	80.3	**0.0534**	4.4
3	88.9	**0.0578**	6.2	86.7	**0.0566**	5.7	84.6	**0.0554**	5.3	82.3	**0.0542**	4.8	80.2	**0.0531**	4.3
2	88.9	**0.0575**	6.1	86.7	**0.0563**	5.6	84.5	**0.0551**	5.2	82.3	**0.0539**	4.7	80.2	**0.0528**	4.2
1	88.8	**0.0572**	6.0	86.6	**0.0560**	5.5	84.5	**0.0548**	5.1	82.2	**0.0536**	4.6	80.1	**0.0525**	4.1
0	88.8	**0.0569**	5.9	86.6	**0.0557**	5.4	84.4	**0.0545**	5.0	82.2	**0.0533**	4.5	80.1	**0.0522**	4.0

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.0			1°.1			1°.2			1°.3			1°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+10°.9	80.2	**0.0595**	6.8	78.3	**0.0584**	6.4	76.3	**0.0572**	6.0	74.5	**0.0561**	5.8	72.5	**0.0549**	5.1
8	80.1	**0.0592**	6.7	78.2	**0.0581**	6.3	76.2	**0.0569**	5.8	74.4	**0.0558**	5.6	72.4	**0.0546**	4.9
7	80.1	**0.0589**	6.6	78.1	**0.0578**	6.2	76.1	**0.0566**	5.7	74.3	**0.0555**	5.4	72.3	**0.0543**	4.7
6	80.0	**0.0586**	6.5	78.0	**0.0575**	6.1	76.0	**0.0563**	5.6	74.2	**0.0552**	5.3	72.2	**0.0540**	4.6
5	80.0	**0.0583**	6.4	77.9	**0.0572**	6.0	75.9	**0.0560**	5.5	74.1	**0.0549**	5.2	72.1	**0.0537**	4.5
4	79.9	**0.0580**	6.3	77.8	**0.0569**	5.9	75.8	**0.0557**	5.4	74.0	**0.0546**	5.1	72.0	**0.0534**	4.4
3	79.8	**0.0577**	6.2	77.7	**0.0566**	5.8	75.7	**0.0554**	5.3	73.9	**0.0543**	4.9	71.9	**0.0531**	4.3
2	79.7	**0.0574**	6.1	77.6	**0.0563**	5.7	75.6	**0.0551**	5.2	73.8	**0.0540**	4.8	71.8	**0.0528**	4.2
1	79.6	**0.0571**	6.0	77.5	**0.0560**	5.6	75.5	**0.0548**	5.1	73.7	**0.0537**	4.7	71.7	**0.0525**	4.1
0	79.5	**0.0568**	5.9	77.5	**0.0557**	5.5	75.5	**0.0545**	5.0	73.6	**0.0534**	4.5	71.6	**0.0522**	4.0
+ 9.9	79.5	**0.0566**	5.7	77.4	**0.0555**	5.3	75.4	**0.0543**	4.8	73.5	**0.0532**	4.3	71.5	**0.0520**	3.8
8	79.4	**0.0563**	5.5	77.3	**0.0552**	5.1	75.3	**0.0540**	4.6	73.4	**0.0529**	4.1	71.4	**0.0517**	3.6
7	79.4	**0.0560**	5.4	77.2	**0.0549**	5.0	75.2	**0.0537**	4.5	73.3	**0.0526**	4.0	71.3	**0.0514**	3.5
6	79.3	**0.0557**	5.3	77.1	**0.0546**	4.9	75.1	**0.0534**	4.4	73.2	**0.0523**	3.9	71.2	**0.0511**	3.4
5	79.2	**0.0554**	5.2	77.0	**0.0543**	4.8	75.0	**0.0531**	4.3	73.1	**0.0520**	3.8	71.1	**0.0508**	3.3
4	79.1	**0.0551**	5.1	76.9	**0.0540**	4.7	74.9	**0.0528**	4.2	73.0	**0.0517**	3.7	71.0	**0.0505**	3.2
3	79.0	**0.0548**	5.0	76.8	**0.0537**	4.6	74.8	**0.0525**	4.1	72.9	**0.0514**	3.6	70.9	**0.0502**	3.1
2	78.9	**0.0545**	4.9	76.8	**0.0534**	4.5	74.7	**0.0522**	4.0	72.8	**0.0511**	3.5	70.8	**0.0499**	3.0
1	78.8	**0.0542**	4.8	76.7	**0.0531**	4.4	74.6	**0.0519**	3.9	72.7	**0.0508**	3.4	70.7	**0.0496**	2.9
0	78.7	**0.0539**	4.7	76.7	**0.0528**	4.3	74.6	**0.0516**	3.8	72.6	**0.0505**	3.3	70.6	**0.0493**	2.8
+ 8.9	78.6	**0.0536**	4.5	76.6	**0.0526**	4.1	74.5	**0.0513**	3.6	72.5	**0.0502**	3.1	70.5	**0.0490**	2.6
8	78.5	**0.0533**	4.3	76.5	**0.0523**	3.9	74.4	**0.0510**	3.4	72.4	**0.0499**	2.9	70.4	**0.0487**	2.4
7	78.4	**0.0530**	4.2	76.4	**0.0520**	3.8	74.3	**0.0507**	3.2	72.3	**0.0496**	2.7	70.3	**0.0484**	2.2
6	78.3	**0.0527**	4.1	76.3	**0.0517**	3.7	74.2	**0.0504**	3.1	72.2	**0.0493**	2.6	70.2	**0.0481**	2.1
5	78.2	**0.0524**	4.0	76.2	**0.0514**	3.6	74.1	**0.0501**	3.0	72.1	**0.0490**	2.5	70.1	**0.0478**	2.0
4	78.1	**0.0521**	3.9	76.1	**0.0511**	3.5	74.0	**0.0498**	2.9	72.0	**0.0487**	2.4	70.0	**0.0475**	1.9
3	78.0	**0.0518**	3.8	76.0	**0.0508**	3.4	73.9	**0.0495**	2.8	71.9	**0.0484**	2.3	69.9	**0.0472**	1.8
2	78.0	**0.0515**	3.7	75.9	**0.0505**	3.3	73.8	**0.0492**	2.7	71.8	**0.0481**	2.2	69.8	**0.0469**	1.7
1	77.9	**0.0512**	3.6	75.8	**0.0502**	3.2	73.7	**0.0489**	2.6	71.7	**0.0478**	2.1	69.7	**0.0466**	1.6
0	77.9	**0.0510**	3.5	75.8	**0.0499**	3.0	73.7	**0.0487**	2.5	71.7	**0.0476**	2.0	69.6	**0.0464**	1.5

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.5			1°.6			1°.7			1°.8			1°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+10°.9	70.7	**0.0538**	4.6	68.8	**0.0527**	4.2	67.0	**0.0515**	3.8	65.2	**0.0503**	3.2	63.3	**0.0492**	2.8
8	70.5	**0.0534**	4.5	68.7	**0.0523**	4.0	66.8	**0.0511**	3.6	65.0	**0.0500**	3.0	63.1	**0.0488**	2.6
7	70.4	**0.0531**	4.4	68.6	**0.0520**	3.9	66.7	**0.0508**	3.4	64.9	**0.0496**	2.8	63.0	**0.0485**	2.4
6	70.3	**0.0528**	4.3	68.5	**0.0517**	3.8	66.6	**0.0505**	3.2	64.8	**0.0493**	2.7	62.9	**0.0482**	2.2
5	70.2	**0.0525**	4.2	68.4	**0.0514**	3.7	66.5	**0.0502**	3.1	64.7	**0.0490**	2.6	62.8	**0.0479**	2.1
4	70.1	**0.0522**	4.1	68.3	**0.0511**	3.6	66.4	**0.0499**	3.0	64.6	**0.0487**	2.5	62.7	**0.0476**	2.0
3	70.0	**0.0519**	4.0	68.2	**0.0508**	3.5	66.3	**0.0496**	2.9	64.5	**0.0484**	2.4	62.6	**0.0473**	1.9
2	69.9	**0.0516**	3.8	68.1	**0.0505**	3.3	66.2	**0.0493**	2.8	64.4	**0.0481**	2.3	62.5	**0.0470**	1.8
1	69.8	**0.0513**	3.6	68.0	**0.0502**	3.1	66.1	**0.0490**	2.7	64.3	**0.0478**	2.2	62.4	**0.0467**	1.7
0	69.7	**0.0510**	3.5	67.9	**0.0498**	3.0	66.0	**0.0487**	2.5	64.2	**0.0475**	2.0	62.3	**0.0464**	1.5
+ 9.9	69.6	**0.0508**	3.3	67.7	**0.0496**	2.8	65.8	**0.0484**	2.3	64.0	**0.0473**	1.8	62.1	**0.0461**	1.3
8	69.5	**0.0505**	3.1	67.6	**0.0493**	2.6	65.6	**0.0481**	2.1	63.8	**0.0470**	1.6	61.9	**0.0458**	1.1
7	69.4	**0.0502**	3.0	67.5	**0.0490**	2.4	65.5	**0.0478**	1.9	63.6	**0.0467**	1.4	61.7	**0.0455**	0.9
6	69.3	**0.0499**	2.9	67.4	**0.0487**	2.3	65.4	**0.0475**	1.8	63.5	**0.0464**	1.2	61.6	**0.0452**	0.7
5	69.2	**0.0496**	2.8	67.3	**0.0484**	2.2	65.3	**0.0472**	1.7	63.4	**0.0461**	1.1	61.5	**0.0449**	0.6
4	69.1	**0.0493**	2.7	67.2	**0.0481**	2.1	65.2	**0.0469**	1.6	63.3	**0.0458**	1.0	61.4	**0.0446**	0.5
3	69.0	**0.0490**	2.6	67.1	**0.0478**	2.0	65.1	**0.0466**	1.5	63.2	**0.0455**	0.9	61.3	**0.0443**	0.4
2	68.9	**0.0487**	2.5	67.0	**0.0475**	1.9	65.0	**0.0463**	1.4	63.1	**0.0452**	0.8	61.2	**0.0440**	0.3
1	68.8	**0.0484**	2.4	66.9	**0.0472**	1.8	64.9	**0.0460**	1.3	63.0	**0.0449**	0.7	61.1	**0.0437**	0.2
0	68.7	**0.0481**	2.2	66.7	**0.0469**	1.7	64.8	**0.0457**	1.2	62.9	**0.0446**	0.6	60.9	**0.0434**	+0.1
+ 8.9	68.5	**0.0479**	2.0	66.5	**0.0467**	1.5	64.6	**0.0455**	1.0	62.7	**0.0444**	0.4	60.7	**0.0432**	−0.1
8	68.4	**0.0476**	1.8	66.3	**0.0464**	1.3	64.4	**0.0453**	0.8	62.6	**0.0441**	+0.2	60.6	**0.0429**	−0.2
7	68.3	**0.0473**	1.6	66.2	**0.0461**	1.1	64.2	**0.0450**	0.6	62.4	**0.0438**	±0.0	60.4	**0.0426**	−0.4
6	68.2	**0.0470**	1.5	66.1	**0.0458**	1.0	64.1	**0.0447**	0.4	62.3	**0.0435**	−0.2	60.3	**0.0423**	−0.5
5	68.1	**0.0467**	1.4	66.0	**0.0455**	0.9	64.0	**0.0444**	0.3	62.2	**0.0432**	−0.3	60.1	**0.0420**	−0.7
4	68.0	**0.0464**	1.3	65.9	**0.0452**	0.8	63.9	**0.0441**	0.2	62.0	**0.0429**	−0.4	60.0	**0.0417**	−0.8
3	67.9	**0.0461**	1.2	65.8	**0.0449**	0.7	63.8	**0.0438**	+0.1	61.9	**0.0426**	−0.5	59.8	**0.0414**	−1.0
2	67.8	**0.0458**	1.1	65.7	**0.0446**	0.6	63.7	**0.0435**	±0.0	61.7	**0.0423**	−0.6	59.7	**0.0411**	−1.2
1	67.7	**0.0455**	1.0	65.6	**0.0443**	0.5	63.6	**0.0432**	−0.1	61.6	**0.0420**	−0.7	59.5	**0.0408**	−1.3
0	67.6	**0.0452**	0.9	65.5	**0.0440**	0.4	63.5	**0.0429**	−0.2	61.4	**0.0417**	−0.8	59.4	**0.0405**	−1.4

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+7.9°	......	**0.0624**	......	97.7	**0.0613**	7.5	95.4	**0.0601**	7.1	93.2	**0.0590**	6.6	90.9	**0.0578**	6.1
8	......	**0.0621**	......	97.7	**0.0610**	7.4	95.4	**0.0598**	7.0	93.2	**0.0587**	6.5	90.9	**0.0575**	6.0
7	......	**0.0618**	......	97.7	**0.0607**	7.3	95.4	**0.0595**	6.9	93.2	**0.0584**	6.4	90.8	**0.0572**	5.9
6	......	**0.0615**	......	97.7	**0.0604**	7.2	95.4	**0.0592**	6.8	93.2	**0.0581**	6.3	90.8	**0.0569**	5.8
5	......	**0.0612**	......	97.7	**0.0601**	7.1	95.3	**0.0589**	6.7	93.1	**0.0578**	6.2	90.8	**0.0566**	5.7
4	......	**0.0609**	......	97.7	**0.0598**	7.0	95.3	**0.0586**	6.6	93.1	**0.0575**	6.1	90.7	**0.0563**	5.6
3	......	**0.0606**	......	97.7	**0.0595**	6.9	95.3	**0.0583**	6.5	93.1	**0.0572**	6.0	90.7	**0.0560**	5.5
2	......	**0.0603**	......	97.7	**0.0592**	6.8	95.3	**0.0580**	6.4	93.0	**0.0569**	5.9	90.7	**0.0557**	5.4
1	......	**0.0600**	......	97.7	**0.0589**	6.7	95.3	**0.0577**	6.3	93.0	**0.0566**	5.8	90.6	**0.0554**	5.3
0	......	**0.0598**	......	97.6	**0.0587**	6.6	95.2	**0.0575**	6.2	92.9	**0.0564**	5.7	90.6	**0.0552**	5.2
+6.9	......	**0.0596**	......	97.6	**0.0585**	6.5	95.2	**0.0572**	6.0	92.9	**0.0562**	5.6	90.5	**0.0550**	5.1
8	......	**0.0593**	......	97.6	**0.0582**	6.4	95.2	**0.0569**	5.9	92.9	**0.0559**	5.5	90.5	**0.0547**	5.0
7	......	**0.0590**	......	97.6	**0.0579**	6.3	95.2	**0.0567**	5.8	92.9	**0.0556**	5.4	90.4	**0.0544**	4.9
6	......	**0.0587**	......	97.6	**0.0576**	6.2	95.2	**0.0564**	5.7	92.9	**0.0553**	5.3	90.4	**0.0541**	4.8
5	......	**0.0584**	......	97.6	**0.0573**	6.1	95.2	**0.0561**	5.6	92.8	**0.0550**	5.2	90.3	**0.0538**	4.7
4	......	**0.0581**	......	97.6	**0.0570**	6.0	95.2	**0.0558**	5.5	92.8	**0.0547**	5.1	90.3	**0.0535**	4.6
3	......	**0.0578**	......	97.6	**0.0567**	5.9	95.2	**0.0555**	5.4	92.8	**0.0544**	5.0	90.2	**0.0532**	4.5
2	......	**0.0575**	......	97.6	**0.6564**	5.8	95.2	**0.0552**	5.3	92.8	**0.0541**	4.9	90.2	**0.0529**	4.4
1	......	**0.0573**	......	97.6	**0.0562**	5.7	95.2	**0.0550**	5.2	92.8	**0.0539**	4.8	90.2	**0.0527**	4.3
0	......	**0.0571**	......	97.6	**0.0560**	5.6	95.1	**0.0548**	5.1	92.7	**0.0537**	4.7	90.2	**0.0525**	4.2
+5.9	......	**0.0568**	......	97.6	**0.0557**	5.5	95.1	**0.0545**	5.0	92.7	**0.0535**	4.5	90.2	**0.0522**	4.0
8	......	**0.0566**	......	97.6	**0.0555**	5.4	95.1	**0.0542**	4.9	92.7	**0.0532**	4.4	90.2	**0.0520**	3.9
7	......	**0.0563**	......	97.6	**0.0552**	5.3	95.1	**0.0540**	4.8	92.7	**0.0529**	4.3	90.2	**0.0517**	3.8
6	......	**0.0561**	......	97.6	**0.0550**	5.2	95.1	**0.0537**	4.7	92.7	**0.0527**	4.2	90.2	**0.0515**	3.7
5	......	**0.0558**	......	97.6	**0.0547**	5.1	95.0	**0.0535**	4.6	92.6	**0.0524**	4.1	90.1	**0.0512**	3.6
4	......	**0.0556**	......	97.6	**0.0545**	5.0	95.0	**0.0532**	4.5	92.6	**0.0522**	4.0	90.1	**0.0510**	3.5
3	......	**0.0553**	......	97.6	**0.0542**	4.9	95.0	**0.0530**	4.4	92.6	**0.0519**	3.9	90.1	**0.0507**	3.4
2	......	**0.0551**	......	97.6	**0.0540**	4.8	95.0	**0.0528**	4.3	92.6	**0.0517**	3.8	90.1	**0.0505**	3.3
1	......	**0.0548**	......	97.6	**0.0537**	4.7	95.0	**0.0525**	4.2	92.6	**0.0514**	3.7	90.1	**0.0502**	3.2
0	......	**0.0546**	......	97.5	**0.0535**	4.6	94.9	**0.0523**	4.1	92.5	**0.0512**	3.6	90.0	**0.0500**	3.1

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+7°.9	88.8	**0.0567**	5.7	86.5	**0.0555**	5.2	84.3	**0.0543**	4.8	82.1	**0.0531**	4.3	80.1	**0.0520**	3.8
8	88.8	**0.0564**	5.6	86.5	**0.0552**	5.1	84.2	**0.0540**	4.7	82.0	**0.0528**	4.2	80.0	**0.0517**	3.7
7	88.7	**0.0561**	5.5	86.4	**0.0549**	5.0	84.2	**0.0537**	4.6	82.0	**0.0525**	4.1	80.0	**0.0514**	3.6
6	88.7	**0.0558**	5.4	86.4	**0.0546**	4.9	84.1	**0.0534**	4.5	81.9	**0.0522**	4.0	79.9	**0.0511**	3.5
5	88.6	**0.0555**	5.3	86.3	**0.0543**	4.8	84.1	**0.0531**	4.4	81.9	**0.0519**	3.9	79.8	**0.0508**	3.4
4	88.6	**0.0552**	5.2	86.2	**0.0540**	4.7	84.0	**0.0528**	4.3	81.8	**0.0516**	3.8	79.7	**0.0505**	3.3
3	88.5	**0.0549**	5.1	86.2	**0.0537**	4.6	84.0	**0.0525**	4.2	81.8	**0.0513**	3.7	79.6	**0.0502**	3.2
2	88.5	**0.0546**	5.0	86.1	**0.0534**	4.5	83.9	**0.0522**	4.1	81.7	**0.0510**	3.6	79.5	**0.0499**	3.1
1	88.4	**0.0543**	4.9	86.1	**0.0531**	4.4	83.9	**0.0520**	4.0	81.7	**0.0508**	3.5	79.5	**0.0497**	3.0
0	88.3	**0.0541**	4.8	86.0	**0.0529**	4.3	83.8	**0.0518**	3.9	81.6	**0.0506**	3.4	79.4	**0.0495**	2.9

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+6.9	88.3	**0.0539**	4.6	86.0	**0.0527**	4.1	83.8	**0.0516**	3.6	81.5	**0.0504**	3.1	79.3	**0.0493**	2.6
8	88.2	**0.0536**	4.5	85.9	**0.0524**	4.0	83.7	**0.0513**	3.5	81.4	**0.0501**	3.0	79.2	**0.0490**	2.5
7	88.2	**0.0533**	4.4	85.9	**0.0521**	3.9	83.7	**0.0510**	3.4	81.3	**0.0498**	2.9	79.1	**0.0487**	2.4
6	88.1	**0.0530**	4.3	85.8	**0.0518**	3.8	83.6	**0.0507**	3.3	81.2	**0.0495**	2.8	79.0	**0.0484**	2.3
5	88.1	**0.0527**	4.2	85.8	**0.0515**	3.7	83.5	**0.0504**	3.2	81.1	**0.0492**	2.7	78.9	**0.0481**	2.2
4	88.0	**0.0524**	4.1	85.7	**0.0512**	3.6	83.5	**0.0501**	3.1	81.0	**0.0489**	2.6	78.8	**0.0478**	2.1
3	88.0	**0.0521**	4.0	85.7	**0.0509**	3.5	83.4	**0.0498**	3.0	81.0	**0.0486**	2.5	78.7	**0.0475**	2.0
2	87.9	**0.0518**	3.9	85.6	**0.0506**	3.4	83.3	**0.0495**	2.9	80.9	**0.0483**	2.4	78.7	**0.0472**	1.9
1	87.9	**0.0516**	3.8	85.6	**0.0504**	3.3	83.3	**0.0493**	2.8	80.9	**0.0481**	2.3	78.6	**0.0470**	1.8
0	87.9	**0.0514**	3.7	85.5	**0.0502**	3.2	83.2	**0.0491**	2.7	80.8	**0.0479**	2.2	78.6	**0.0468**	1.7

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+5.9	87.9	**0.0511**	3.5	85.5	**0.0499**	3.0	83.2	**0.0488**	2.5	80.8	**0.0477**	1.9	78.5	**0.0466**	1.4
8	87.9	**0.0509**	3.4	85.4	**0.0497**	2.9	83.1	**0.0486**	2.4	80.7	**0.0475**	1.8	78.4	**0.0464**	1.3
7	87.8	**0.0507**	3.3	85.4	**0.0494**	2.8	83.0	**0.0483**	2.3	80.7	**0.0472**	1.7	78.3	**0.0461**	1.2
6	87.8	**0.0504**	3.2	85.3	**0.0492**	2.7	82.9	**0.0481**	2.2	80.6	**0.0469**	1.6	78.2	**0.0458**	1.1
5	87.7	**0.0502**	3.1	85.3	**0.0489**	2.6	82.8	**0.0478**	2.1	80.5	**0.0467**	1.5	78.1	**0.0456**	1.0
4	87.7	**0.0499**	3.0	85.2	**0.0487**	2.5	82.8	**0.0476**	2.0	80.5	**0.0464**	1.4	78.0	**0.0453**	0.9
3	87.6	**0.0496**	2.9	85.2	**0.0484**	2.4	82.7	**0.0473**	1.9	80.4	**0.0462**	1.3	77.9	**0.0450**	0.8
2	87.6	**0.0494**	2.8	85.1	**0.0482**	2.3	82.7	**0.0471**	1.8	80.3	**0.0459**	1.2	77.9	**0.0448**	0.7
1	87.5	**0.0491**	2.7	85.0	**0.0479**	2.2	82.6	**0.0468**	1.7	80.3	**0.0456**	1.1	77.8	**0.0445**	0.6
0	87.5	**0.0489**	2.6	84.9	**0.0477**	2.1	82.6	**0.0466**	1.6	80.2	**0.0454**	1.0	77.8	**0.0443**	0.5

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS. 1°.0			1°.1			1°.2			1°.3			1°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+7°.9	77.9	**0.0507**	3.3	75.8	**0.0496**	2.8	73.7	**0.0484**	2.3	71.6	**0.0473**	1.8	69.4	**0.0461**	1.3
8	77.8	**0.0504**	3.1	75.8	**0.0493**	2.6	73.6	**0.0481**	2.1	71.5	**0.0470**	1.6	69.3	**0.0458**	1.1
7	77.7	**0.0501**	3.0	75.7	**0.0490**	2.5	73.5	**0.0478**	2.0	71.4	**0.0467**	1.5	69.2	**0.0455**	0.9
6	77.6	**0.0498**	2.9	75.6	**0.0487**	2.4	73.4	**0.0475**	1.9	71.3	**0.0464**	1.4	69.1	**0.0452**	0.8
5	77.5	**0.0495**	2.8	75.5	**0.0484**	2.3	73.3	**0.0472**	1.8	71.2	**0.0461**	1.3	69.0	**0.0449**	0.7
4	77.4	**0.0492**	2.7	75.4	**0.0481**	2.2	73.2	**0.0469**	1.7	71.1	**0.0458**	1.2	68.9	**0.0446**	0.6
3	77.3	**0.0489**	2.6	75.3	**0.0478**	2.1	73.1	**0.0466**	1.6	71.0	**0.0455**	1.1	68.8	**0.0443**	0.5
2	77.2	**0.0487**	2.5	75.2	**0.0476**	2.0	73.0	**0.0464**	1.5	70.9	**0.0453**	1.0	68.7	**0.0441**	0.4
1	77.1	**0.0485**	2.4	75.1	**0.0474**	1.9	72.9	**0.0462**	1.4	70.8	**0.0451**	0.9	68.6	**0.0439**	0.3
0	77.1	**0.0483**	2.3	75.0	**0.0472**	1.8	72.8	**0.0460**	1.3	70.7	**0.0449**	0.8	68.5	**0.0437**	0.2
+6.9	77.0	**0.0480**	2.1	74.9	**0.0469**	1.6	72.6	**0.0458**	1.1	70.5	**0.0447**	0.6	68.3	**0.0435**	+0.1
8	76.9	**0.0477**	1.9	74.8	**0.0466**	1.4	72.5	**0.0455**	0.9	70.3	**0.0445**	0.4	68.1	**0.0433**	±0.0
7	76.8	**0.0474**	1.8	74.7	**0.0463**	1.3	72.4	**0.0452**	0.8	70.2	**0.0443**	0.2	68.0	**0.0431**	—0.1
6	76.7	**0.0471**	1.7	74.6	**0.0460**	1.2	72.3	**0.0449**	0.7	70.1	**0.0440**	+0.1	67.9	**0.0428**	—0.3
5	76.6	**0.0468**	1.6	74.5	**0.0457**	1.1	72.2	**0.0446**	0.6	70.0	**0.0437**	±0.0	67.8	**0.0425**	—0.5
4	76.5	**0.0465**	1.5	74.4	**0.0454**	1.0	72.1	**0.0443**	0.5	69.9	**0.0434**	—0.1	67.7	**0.0422**	—0.6
3	76.5	**0.0462**	1.4	74.3	**0.0451**	0.9	72.0	**0.0441**	0.4	69.8	**0.0431**	—0.2	67.6	**0.0419**	—0.7
2	76.4	**0.0460**	1.3	74.2	**0.0449**	0.8	71.9	**0.0438**	0.3	69.7	**0.0428**	—0.3	67.5	**0.0416**	—0.8
1	76.4	**0.0458**	1.2	74.1	**0.0447**	0.7	71.8	**0.0436**	+0.2	69.6	**0.0425**	—0.4	67.4	**0.0413**	—1.0
0	76.3	**0.0456**	1.1	74.0	**0.0445**	0.6	71.7	**0.0433**	±0.0	69.5	**0.0422**	—0.6	67.3	**0.0410**	—1.2
+5.9	76.3	**0.0453**	0.9	74.0	**0.0443**	0.5	71.7	**0.0430**	—0.2	69.3	**0.0420**	—0.8	67.1	**0.0408**	—1.4
8	76.2	**0.0451**	0.8	73.9	**0.0440**	0.4	71.6	**0.0428**	—0.4	69.2	**0.0417**	—1.0	67.0	**0.0405**	—1.6
7	76.1	**0.0448**	0.7	73.9	**0.0437**	0.3	71.5	**0.0425**	—0.5	69.1	**0.0415**	—1.2	66.8	**0.0402**	—1.8
6	76.0	**0.0446**	0.6	73.8	**0.0435**	0.2	71.4	**0.0423**	—0.6	69.0	**0.0412**	—1.3	66.7	**0.0400**	—1.9
5	75.9	**0.0443**	0.5	73.7	**0.0432**	+0.1	71.3	**0.0420**	—0.7	68.9	**0.0410**	—1.4	66.6	**0.0397**	—2.0
4	75.8	**0.0441**	0.4	73.6	**0.0430**	±0.0	71.2	**0.0418**	—0.8	68.8	**0.0407**	—1.5	66.5	**0.0395**	—2.1
3	75.7	**0.0438**	0.3	73.5	**0.0427**	—0.1	71.1	**0.0415**	—0.9	68.7	**0.0404**	—1.6	66.4	**0.0392**	—2.2
2	75.6	**0.0436**	0.2	73.4	**0.0425**	—0.3	71.0	**0.0413**	—1.0	68.6	**0.0402**	—1.7	66.3	**0.0390**	—2.3
1	75.5	**0.0433**	+0.1	73.3	**0.0422**	—0.5	70.9	**0.0410**	—1.2	68.5	**0.0399**	—1.8	66.2	**0.0387**	—2.4
0	75.4	**0.0431**	—0.1	73.2	**0.0420**	—0.7	70.8	**0.0408**	—1.3	68.4	**0.0397**	—1.9	66.1	**0.0385**	—2.5

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.5			1°.6			1°.7			1°.8			1°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+7°.9	67.4	**0.0150**	+0.9	65.3	**0.0138**	+0.4	63.3	**0.0127**	—0.2	61.2	**0.0415**	—0.9	59.2	**0.0401**	—1.6
8	67.2	**0.0147**	+0.7	65.2	**0.0135**	+0.2	63.2	**0.0124**	—0.4	61.0	**0.0412**	—1.1	59.1	**0.0398**	—1.7
7	67.1	**0.0144**	+0.5	65.1	**0.0132**	±0.0	63.1	**0.0121**	—0.6	60.9	**0.0409**	—1.2	58.9	**0.0395**	—1.9
6	67.0	**0.0141**	+0.3	65.0	**0.0129**	—0.2	63.0	**0.0118**	—0.8	60.8	**0.0406**	—1.4	58.8	**0.0392**	—2.0
5	66.9	**0.0138**	+0.1	64.9	**0.0126**	—0.4	62.9	**0.0115**	—1.0	60.7	**0.0403**	—1.5	58.6	**0.0389**	—2.2
4	66.8	**0.0135**	—0.1	64.8	**0.0123**	—0.6	62.8	**0.0112**	—1.2	60.6	**0.0400**	—1.7	58.5	**0.0386**	—2.3
3	66.7	**0.0132**	—0.2	64.7	**0.0120**	—0.8	62.7	**0.0409**	—1.3	60.5	**0.0397**	—1.8	58.3	**0.0384**	—2.5
2	66.6	**0.0129**	—0.3	64.6	**0.0117**	—0.9	62.6	**0.0406**	—1.4	60.4	**0.0394**	—2.0	58.2	**0.0382**	—2.6
1	66.5	**0.0127**	—0.4	64.5	**0.0115**	—1.0	62.4	**0.0404**	—1.5	60.3	**0.0392**	—2.1	58.0	**0.0380**	—2.8
0	66.4	**0.0125**	—0.5	64.3	**0.0113**	—1.1	62.2	**0.0402**	—1.6	60.1	**0.0390**	—2.2	57.9	**0.0378**	—2.9
+6.9	66.2	**0.0123**	—0.7	64.1	**0.0111**	—1.3	62.1	**0.0400**	—1.7	60.0	**0.0387**	—2.4	57.7	**0.0375**	—3.1
8	66.1	**0.0121**	—0.9	64.0	**0.0109**	—1.5	62.0	**0.0398**	—1.9	59.8	**0.0384**	—2.5	57.6	**0.0372**	—3.3
7	66.0	**0.0120**	—1.1	63.9	**0.0107**	—1.6	61.8	**0.0396**	—2.0	59.7	**0.0381**	—2.7	57.4	**0.0369**	—3.4
6	65.9	**0.0118**	—1.2	63.8	**0.0105**	—1.7	61.7	**0.0393**	—2.2	59.5	**0.0378**	—2.8	57.3	**0.0366**	—3.6
5	65.8	**0.0117**	—1.3	63.7	**0.0102**	—1.8	61.5	**0.0390**	—2.3	59.4	**0.0376**	—3.0	57.1	**0.0363**	—3.7
4	65.7	**0.0115**	—1.4	63.6	**0.0399**	—1.9	61.4	**0.0387**	—2.5	59.2	**0,0374**	—3.1	57.0	**0.0360**	—3.9
3	65.6	**0.0114**	—1.5	63.5	**0.0396**	—2.0	61.2	**0.0384**	—2.6	59.1	**0.0372**	—3.3	56.8	**0.0358**	—4.0
2	65.5	**0.0112**	—1.6	63.4	**0.0393**	—2.1	61.1	**0.0381**	—2.8	58.9	**0.0370**	—3.4	56.7	**0.0356**	—4.2
1	65.4	**0.0111**	—1.7	63.3	**0.0390**	—2.2	60.9	**0.0378**	—2.9	58.8	**0.0367**	—3.6	56.5	**0.0354**	—4.3
0	65.2	**0.0399**	—1.8	63.0	**0.0387**	—2.4	60.8	**0.0375**	—3.1	58.6	**0.0364**	—3.7	56.4	**0.0352**	—4.5
+5.9	65.0	**0.0396**	—1.9	62.9	**0.0384**	—2.5	60.7	**0.0372**	—3.2	58.5	**0.0361**	—3.9	56.2	**0.0350**	—4.7
8	64.8	**0.0394**	—2.1	62.8	**0.0382**	—2.6	60.6	**0.0370**	—3.4	58.4	**0.0359**	—4.1	56.1	**0.0347**	—4.8
7	64.6	**0.0391**	—2.2	62.7	**0.0379**	—2.8	60.4	**0.0367**	—3.5	58.2	**0.0356**	—4.2	55.9	**0.0345**	—5.0
6	64.5	**0.0389**	—2.4	62.5	**0.0377**	—2.9	60.3	**0.0365**	—3.7	58.1	**0.0354**	—4.4	55.8	**0.0342**	—5.1
5	64.4	**0.0386**	—2.5	62.3	**0.0374**	—3.1	60.1	**0.0362**	—3.8	57.9	**0.0351**	—4.5	55.6	**0.0340**	—5.3
4	64.3	**0.0384**	—2.7	62.1	**0.0372**	—3.2	60.0	**0.0360**	—4.0	57.8	**0.0349**	—4.7	55.5	**0.0337**	—5.4
3	64.2	**0.0381**	—2.8	62.0	**0.0369**	—3.4	59.8	**0.0357**	—4.1	57.6	**0.0346**	—4.8	55.3	**0.0335**	—5.5
2	64.1	**0.0379**	—3.0	61.9	**0.0367**	—3.5	59.7	**0.0355**	—4.3	57.5	**0.0344**	—5.0	55.2	**0.0332**	—5.7
1	64.0	**0.0376**	—3.1	61.8	**0.0364**	—3.7	59.5	**0.0352**	—4.4	57.3	**0.0341**	—5.1	55.0	**0.0330**	—5.8
0	63.9	**0.0374**	—3.2	61.7	**0.0362**	—3.8	59.4	**0.0350**	—4.6	57.2	**0.0339**	—5.3	54.9	**0.0327**	—6.0

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+4°.9	......	**0.0543**	......	97.5	**0.0532**	4.4	94.9	**0.0520**	3.9	92.5	**0.0509**	3.4	89.9	**0.0197**	2.9
8	......	**0.0541**	......	97.5	**0.0530**	4.3	94.9	**0.0518**	3.8	92.5	**0.0507**	3.3	89.9	**0.0195**	2.8
7	......	**0.0538**	......	97.5	**0.0527**	4.2	94.9	**0.0515**	3.7	92.4	**0.0501**	3.2	89.8	**0.0192**	2.7
6	......	**0.0536**	......	97.5	**0.0525**	4.1	94.9	**0.0513**	3.6	92.4	**0.0502**	3.1	89.8	**0.0190**	2.6
5	......	**0.0533**	......	97.5	**0.0522**	4.0	94.8	**0.0510**	3.5	92.3	**0.0199**	3.0	89.7	**0.0187**	2.5
4	......	**0.0531**	......	97.5	**0.0520**	3.9	94.8	**0.0508**	3.4	92.3	**0.0497**	2.9	89.7	**0.0185**	2.4
3	......	**0.0528**	......	97.5	**0.0517**	3.8	94.8	**0.0505**	3.3	92.2	**0.0191**	2.8	89.6	**0.0182**	2.3
2	......	**0.0526**	......	97.5	**0.0515**	3.7	94.8	**0.0503**	3.2	92.2	**0.0192**	2.7	89.6	**0.0180**	2.2
1	......	**0.0523**	......	97.5	**0.0512**	3.6	94.8	**0.0500**	3.1	92.1	**0.0189**	2.6	89.6	**0.0177**	2.1
0	......	**0.0521**	......	97.4	**0.0510**	3.5	94.7	**0.0498**	3.0	92.1	**0.0187**	2.5	89.5	**0.0175**	2.0
+3.9	......	**0.0518**	......	97.4	**0.0507**	3.4	94.7	**0.0495**	2.9	92.1	**0.0181**	2.4	89.4	**0.0172**	1.8
8	......	**0.0516**	......	97.4	**0.0505**	3.3	94.7	**0.0493**	2.8	92.0	**0.0182**	2.3	89.4	**0.0170**	1.7
7	......	**0.0514**	......	97.4	**0.0503**	3.2	94.7	**0.0491**	2.7	92.0	**0.0180**	2.2	89.3	**0.0168**	1.6
6	......	**0.0512**	......	97.4	**0.0501**	3.1	94.7	**0.0489**	2.6	92.0	**0.0178**	2.1	89.3	**0.0166**	1.5
5	......	**0.0510**	......	97.4	**0.0499**	3.0	94.6	**0.0487**	2.5	91.9	**0.0176**	2.0	89.2	**0.0161**	1.4
4	......	**0.0508**	......	97.4	**0.0497**	2.9	94.6	**0.0485**	2.4	91.9	**0.0171**	1.9	89.2	**0.0162**	1.3
3	......	**0.0506**	......	97.4	**0.0495**	2.8	94.6	**0.0482**	2.3	91.9	**0.0172**	1.8	89.1	**0.0160**	1.2
2	......	**0.0504**	......	97.4	**0.0493**	2.7	94.6	**0.0480**	2.2	91.8	**0.0170**	1.7	89.1	**0.0158**	1.1
1	......	**0.0501**	......	97.4	**0.0490**	2.6	94.6	**0.0477**	2.1	91.8	**0.0167**	1.6	89.0	**0.0155**	1.0
0	......	**0.0498**	......	97.3	**0.0487**	2.5	94.5	**0.0475**	2.0	91.8	**0.0161**	1.5	89.0	**0.0152**	0.9
+2.9	......	**0.0495**	......	97.3	**0.0484**	2.4	94.5	**0.0472**	1.8	91.8	**0.0461**	1.3	89.0	**0.0119**	0.7
8	......	**0.0493**	......	97.3	**0.0482**	2.3	94.5	**0.0470**	1.7	91.7	**0.0459**	1.2	88.9	**0.0117**	0.6
7	......	**0.0491**	......	97.3	**0.0480**	2.2	94.5	**0.0468**	1.6	91.7	**0.0457**	1.1	88.9	**0.0115**	0.5
6	......	**0.0489**	......	97.3	**0.0478**	2.1	94.5	**0.0466**	1.5	91.7	**0.0455**	1.0	88.9	**0.0113**	0.4
5	......	**0.0487**	......	97.3	**0.0476**	2.0	94.4	**0.0464**	1.4	91.6	**0.0453**	0.9	88.8	**0.0111**	0.3
4	......	**0.0485**	......	97.3	**0.0474**	1.9	94.4	**0.0462**	1.3	91.6	**0.0451**	0.8	88.8	**0.0139**	0.2
3	......	**0.0483**	......	97.3	**0.0472**	1.8	94.4	**0.0460**	1.2	91.6	**0.0449**	0.7	83.8	**0.0137**	+0.1
2	......	**0.0481**	......	97.3	**0.0470**	1.7	94.4	**0.0458**	1.1	91.5	**0.0446**	0.6	88.7	**0.0135**	±0.0
1	......	**0.0478**	......	97.3	**0.0467**	1.6	94.4	**0.0455**	1.0	91.5	**0.0443**	0.5	88.7	**0.0132**	—0.1
0	......	**0.0475**	......	97.2	**0.0464**	1.5	94.3	**0.0452**	0.9	91.5	**0.0441**	0.4	88.7	**0.0129**	—0.2

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS. 0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+4°.9	87.4	**0.0486**	2.4	84.8	**0.0474**	1.8	82.6	**0.0463**	1.3	80.2	**0.0451**	0.7	77.8	**0.0440**	+0.1
8	87.3	**0.0484**	2.3	84.8	**0.0472**	1.7	82.6	**0.0461**	1.2	80.2	**0.0449**	0.6	77.7	**0.0438**	±0.0
7	87.2	**0.0481**	2.2	84.7	**0.0469**	1.6	82.5	**0.0458**	1.1	80.1	**0.0446**	0.5	77.6	**0.0435**	—0.1
6	87.2	**0.0479**	2.1	84.7	**0.0467**	1.5	82.4	**0.0456**	1.0	80.0	**0.0444**	0.4	77.5	**0.0433**	0.2
5	87.1	**0.0476**	2.0	84.6	**0.0464**	1.4	82.3	**0.0453**	0.9	79.9	**0.0441**	0.3	77.4	**0.0430**	0.3
4	87.1	**0.0474**	1.9	84.6	**0.0462**	1.3	82.2	**0.0451**	0.8	79.8	**0.0439**	0.2	77.3	**0.0428**	0.4
3	87.0	**0.0471**	1.8	84.5	**0.0459**	1.2	82.1	**0.0448**	0.7	79.7	**0.0436**	+0.1	77.2	**0.0425**	0.5
2	87.0	**0.0469**	1.7	84.5	**0.0457**	1.1	82.0	**0.0446**	0.6	79.6	**0.0434**	±0.0	77.1	**0.0423**	0.6
1	86.9	**0.0466**	1.6	84.4	**0.0454**	1.0	81.9	**0.0443**	0.5	79.5	**0.0431**	—0.1	77.0	**0.0420**	0.7
0	86.9	**0.0464**	1.5	84.3	**0.0452**	0.9	81.8	**0.0441**	0.4	79.4	**0.0429**	0.2	76.9	**0.0418**	0.8
+3.9	86.8	**0.0461**	1.3	84.3	**0.0449**	0.7	81.8	**0.0438**	0.2	79.4	**0.0426**	—0.3	76.9	**0.0415**	—1.1
8	86.8	**0.0459**	1.2	84.2	**0.0447**	0.6	81.7	**0.0436**	+0.1	79.3	**0.0424**	0.4	76.8	**0.0413**	1.2
7	86.7	**0.0457**	1.1	84.2	**0.0445**	0.5	81.7	**0.0434**	±0.0	79.3	**0.0422**	0.5	76.7	**0.0411**	1.3
6	86.7	**0.0455**	1.0	84.1	**0.0443**	0.4	81.6	**0.0432**	—0.1	79.2	**0.0420**	0.6	76.6	**0.0409**	1.4
5	86.6	**0.0453**	0.9	84.0	**0.0441**	0.3	81.5	**0.0430**	0.2	79.1	**0.0418**	0.7	76.5	**0.0407**	1.5
4	86.6	**0.0451**	0.8	83.9	**0.0439**	0.2	81.5	**0.0428**	0.3	79.0	**0.0416**	0.8	75.4	**0.0405**	1.6
3	86.5	**0.0449**	0.7	83.9	**0.0437**	+0.1	81.4	**0.0426**	0.4	78.9	**0.0414**	0.9	76.3	**0.0403**	1.7
2	86.5	**0.0447**	0.6	83.8	**0.0435**	±0.0	81.3	**0.0424**	0.6	78.8	**0.0412**	1.0	76.2	**0.0401**	1.8
1	86.4	**0.0444**	0.5	83.8	**0.0432**	—0.1	81.2	**0.0421**	0.7	78.7	**0.0409**	1.2	76.1	**0.0398**	1.9
0	86.4	**0.0441**	0.4	83.7	**0.0429**	0.2	81.1	**0.0418**	0.8	78.6	**0.0406**	1.4	76.0	**0.0395**	2.1
+2.9	86.3	**0.0438**	+0.2	83.7	**0.0426**	—0.5	81.1	**0.0415**	—1.2	78.6	**0.0403**	—1.6	75.9	**0.0302**	—2.3
8	86.3	**0.0436**	±0.0	83.6	**0.0424**	0.6	81.0	**0.0413**	1.3	78.5	**0.0401**	1.8	75.8	**0.0390**	2.5
7	86.2	**0.0434**	—0.1	83.6	**0.0422**	0.7	80.9	**0.0411**	1.4	78.4	**0.0399**	2.0	75.7	**0.0388**	2.7
6	86.2	**0.0432**	0.2	83.5	**0.0420**	0.8	80.8	**0.0409**	1.5	78.3	**0.0397**	2.1	75.6	**0.0386**	2.8
5	86.1	**0.0430**	0.3	83.4	**0.0418**	0.9	80.7	**0.0407**	1.6	78.2	**0.0395**	2.2	75.5	**0.0384**	2.9
4	86.1	**0.0428**	0.4	83.3	**0.0416**	1.0	80.6	**0.0405**	1.7	78.1	**0.0393**	2.3	75.4	**0.0382**	3.0
3	86.0	**0.0426**	0.5	83.2	**0.0414**	1.1	80.5	**0.0403**	1.8	78.0	**0.0391**	2.4	75.3	**0.0380**	3.1
2	86.0	**0.0424**	0.6	83.1	**0.0412**	1.2	80.4	**0.0401**	1.9	77.9	**0.0389**	2.5	75.2	**0.0378**	3.2
1	85.9	**0.0421**	0.7	83.1	**0.0409**	1.3	80.3	**0.0398**	2.0	77.8	**0.0386**	2.6	75.1	**0.0375**	3.3
0	85.9	**0.0418**	0.8	83.0	**0.0406**	1.4	80.3	**0.0395**	2.1	77.7	**0.0383**	2.7	75.0	**0.0372**	3.4

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.0			1°.1			1°.2			1°.3			1°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+4°.9	75.3	0.0129	—0.1	73.0	0.0117	—0.8	70.6	0.0105	—1.5	68.2	0.0391	—2.1	65.9	0.0382	—2.7
8	75.2	0.0126	0.3	72.8	0.0115	1.0	70.4	0.0103	1.7	68.0	0.0392	2.3	65.7	0.0380	2.9
7	75.1	0.0121	0.5	72.7	0.0112	1.3	70.2	0.0100	1.9	67.9	0.0389	2.5	65.5	0.0377	3.1
6	75.0	0.0121	0.7	72.6	0.0110	1.5	70.1	0.0398	2.1	67.8	0.0387	2.7	65.4	0.0375	3.3
5	74.9	0.0119	0.8	72.5	0.0107	1.6	70.0	0.0395	2.2	67.7	0.0381	2.9	65.3	0.0372	3.5
4	74.8	0.0116	0.9	72.4	0.0105	1.7	69.9	0.0393	2.3	67.6	0.0382	3.0	65.2	0.0370	3.6
3	74.7	0.0111	1.0	72.3	0.0102	1.8	69.8	0.0390	2.4	67.5	0.0379	3.1	65.1	0.0367	3.7
2	74.6	0.0111	1.2	72.2	0.0100	1.9	69.7	0.0388	2.5	67.4	0.0377	3.2	65.0	0.0365	3.8
1	74.5	0.0109	1.3	72.1	0.0397	2.0	69.6	0.0385	2.6	67.3	0.0371	3.3	64.9	0.0362	3.9
0	74.4	0.0106	1.4	72.0	0.0395	2.1	69.5	0.0383	2.7	67.2	0.0372	3.4	64.8	0.0360	4.0
+3.9	74.4	0.0103	—1.6	71.8	0.0392	—2.3	69.3	0.0380	—2.9	67.0	0.0369	—3.6	64.6	0.0357	—4.2
8	74.3	0.0100	1.7	71.7	0.0389	2.5	69.1	0.0377	3.1	66.8	0.0366	3.8	64.4	0.0351	4.4
7	74.2	0.0397	1.9	71.6	0.0386	2.7	69.0	0.0374	3.3	66.6	0.0363	3.9	64.2	0.0351	4.6
6	74.1	0.0395	2.0	71.5	0.0381	2.8	68.9	0.0372	3.4	66.5	0.0361	4.0	64.1	0.0319	4.8
5	74.0	0.0393	2.2	71.4	0.0382	2.9	68.8	0.0370	3.5	66.4	0.0359	4.1	64.0	0.0317	4.9
4	73.9	0.0391	2.3	71.3	0.0380	3.0	68.7	0.0368	3.6	66.3	0.0357	4.2	63.9	0.0315	5.0
3	73.8	0.0389	2.4	71.2	0.0378	3.1	68.6	0.0366	3.7	66.2	0.0355	4.3	63.8	0.0313	5.1
2	73.7	0.0387	2.5	71.1	0.0376	3.2	68.5	0.0361	3.8	66.1	0.0353	4.4	63.7	0.0311	5.2
1	73.6	0.0385	2.6	71.0	0.0374	3.3	68.4	0.0362	3.9	66.0	0.0351	4.5	63.6	0.0339	5.3
0	73.5	0.0383	2.7	70.9	0.0372	3.4	68.3	0.0360	4.0	65.9	0.0319	4.7	63.5	0.0337	5.4
+2.9	73.3	0.0380	—2.9	70.7	0.0369	—3.6	68.1	0.0357	—4.2	65.7	0.0316	—4.9	63.3	0.0334	—5.6
8	73.1	0.0377	3.1	70.5	0.0366	3.8	67.9	0.0354	4.4	65.5	0.0313	5.1	63.2	0.0331	5.8
7	73.0	0.0374	3.3	70.4	0.0363	4.0	67.7	0.0351	4.6	65.3	0.0310	5.3	63.0	0.0328	6.0
6	72.9	0.0372	3.4	70.3	0.0361	4.1	67.6	0.0349	4.8	65.1	0.0338	5.5	62.9	0.0326	6.2
5	72.8	0.0370	3.5	70.2	0.0359	4.2	67.5	0.0347	4.9	65.0	0.0336	5.7	62.7	0.0324	6.4
4	72.7	0.0368	3.6	70.1	0.0357	4.3	67.4	0.0345	5.0	64.9	0.0334	5.8	62.6	0.0322	6.5
3	72.6	0.0366	3.7	70.0	0.0355	4.4	67.3	0.0343	5.1	64.8	0.0332	5.9	62.4	0.0320	6.6
2	72.5	0.0364	3.8	69.9	0.0353	4.5	67.2	0.0341	5.2	64.7	0.0330	6.0	62.3	0.0318	6.7
1	72.4	0.0362	3.9	69.8	0.0351	4.6	67.1	0.0339	5.3	64.6	0.0328	6.1	62.1	0.0316	6.8
0	72.3	0.0360	4.0	69.7	0.0349	4.7	67.0	0.0337	5.4	64.5	0.0326	6.2	62.0	0.0314	6.9

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.5			1°.6			1°.7			1°.8			1°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+4°.9	63.8	**0.0372**	−3.5	61.5	**0.0360**	−4.0	59.2	**0.0347**	−4.7	57.0	**0.0336**	−5.5	54.7	**0.0324**	−6.2
8	63.6	**0.0369**	3.6	61.4	**0.0357**	4.2	59.1	**0.0344**	4.9	56.8	**0.0334**	5.7	54.5,	**0 0322**	6.4
7	63.5	**0.0367**	3.8	61.2	**0.0355**	4.4	58.9	**0.0341**	5.0	56.6	**0.0331**	5.8	54.3	**0.0319**	6.6
6	63.3	**0.0364**	3.9	61.1	**0.0352**	4.6	58.8	**0.0338**	5.2	56.4	**0.0329**	6.0	54.1	**0.0317**	6.8
5	63.2	**0.0362**	4.1	60.9	**0.0350**	4.8	58.6	**0.0336**	5.3	56.2	**0.0326**	6.1	53.9	**0.0314**	7.0
4	63.0	**0.0359**	4.2	60.8	**0.0347**	5.0	58.5	**0.0334**	5.5	56.0	**0.0324**	6.3	53.7	**0.0312**	7.2
3	62.9	**0.0357**	4.4	60.6	**0.0345**	5.1	58.3	**0.0332**	5.6	55.9	**0.0321**	6.4	53.6	**0.0309**	7.3
2	62.7	**0.0354**	4.5	60.5	**0.0342**	5.2	58.2	**0.0330**	5.8	55.8	**0.0319**	6.5	53.5	**0.0307**	7.4
1	62.6	**0 0352**	4.6	60.3	**0.0340**	5.3	58.0	**0.0328**	5.9	55.7	**0.0316**	6.7	53.4	**0.0305**	7.5
0	62.5	**0.0349**	4.7	60.2	**0.0337**	5.4	57.9	**0.0326**	6.1	55.6	**0.0314**	6.9	53.3	**0.0303**	7.6
+3.9	62.4	**0.0346**	−4.8	60.0	**0.0334**	−5.6	57.7	**0.0323**	−6.3	55.5	**0.0312**	−7.1	53.2	**0.0301**	−7.7
8	62.3	**0.0343**	5.0	59.9	**0.0331**	5.7	57.5	**0.0320**	6.5	55.4	**0.0309**	7.3	53.0	**0.0299**	7.8
7	62.1	**0.0341**	5.1	59.7	**0.0329**	5.9	57.4	**0.0318**	6.6	55.3	**0.0307**	7.4	52.8	**0.0296**	7.9
6	62.0	**0.0339**	5.3	59.6	**0.0327**	6.0	57.2	**0.0316**	6.8	55.1	**0.0305**	7.6	52.6	**0.0294**	8.1
5	61.8	**0.0337**	5.4	59.4	**0.0325**	6.2	57.1	**0.0314**	6.9	54.9	**0.0303**	7.8	52.4	**0.0292**	8.3
4	61.7	**0.0335**	5.6	59.3	**0.0323**	6.3	56.9	**0.0312**	7.1	54.7	**0.0301**	7.9	52.2	**0.0290**	8.5
3	61.5	**0.0333**	5.7	59.1	**0.0321**	6.5	56.8	**0.0310**	7.2	54.5	**0.0299**	8.1	52.0	**0.0288**	8.7
2	61.4	**0.0331**	5.8	58.9	**0.0319**	6.6	56.6	**0.0308**	7.4	54.3	**0.0296**	8.3	51.8	**0.0285**	8.9
1	61.2	**0.0329**	5.9	58.8	**0.0317**	6.8	56.5	**0.0305**	7.5	54.1	**0 0293**	8.4	51.6	**0.0282**	9.1
0	61.1	**0.0326**	6.1	58.7	**0.0314**	6.9	56.3	**0.0302**	7.7	53.9	**0.0290**	8.5	51.5	**0.0279**	9.3
+2.9	61.0	**0.0323**	−6.2	58.6	**0.0311**	−7.0	56.2	**0.0299**	−7.9	53.8	**0.0287**	−8.7	51.3	**0.0276**	−9.4
8	60.8	**0.0320**	6.4	58.5	**0.0308**	7.2	56.0	**0.0296**	8.0	53.6	**0.0284**	8.9	51.1	**0.0273**	9.5
7	60.6	**0.0318**	6.5	58.4	**0.0306**	7.3	55.8	**0.0293**	8.2	53.4	**0.0281**	9.0	50.9	**0.0270**	9.6
6	60.4	**0.0316**	6.7	58.2	**0.0304**	7.4	55.6	**0.0291**	8.3	53.2	**0.0279**	9.2	50.7	**0.0268**	9.8
5	60.2	**0.0314**	6.8	58.0	**0.0302**	7.6	55.4	**0.0289**	8.5	53.0	**0.0277**	9.3	50.5	**0.0266**	10.0
4	60.0	**0.0312**	7.0	57.8	**0.0300**	7.7	55.2	**0.0287**	8.6	52.8	**0.0275**	9.5	50.3	**0.0264**	10.2
3	59.9	**0.0310**	7.1	57.6	**0.0298**	7.9	55.0	**0.0285**	8.8	52.6	**0.0273**	9.6	50.1	**0.0262**	10.4
2	59.8	**0.0308**	7.3	57.4	**0.0296**	8.0	54.9	**0.0283**	8.9	52.4	**0.0271**	9.8	49.9	**0.0260**	10 6
1	59.7	**0.0306**	7.5	57.2	**0.0294**	8.2	54.7	**0.0281**	9.0	52.2	**0.0269**	9.9	49.7	**0.0258**	10.8
0	59.5	**0.0303**	7.6	57.0	**0.0291**	8.4	54.5	**0.0279**	9.2	52.0	**0.0267**	10.1	49.5	**0.0256**	11.0

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS. 0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+1°.9	....	**0.0472**	......	97.2	**0.0461**	1.4	94.3	**0.0449**	0.8	91.5	**0.0438**	+0.2	88.7	**0.0426**	—0.4
8	......	**0.0470**	......	97.2	**0.0459**	1.3	94.3	**0.0447**	0.7	91.5	**0.0436**	+0.1	88.7	**0.0424**	0.5
7	....	**0.0468**	......	97.2	**0.0457**	1.2	94.3	**0.0445**	0.6	91.4	**0.0434**	±0.0	88.6	**0.0422**	0.6
6	......	**0.0466**	......	97.2	**0.0455**	1.1	94.3	**0.0443**	0.5	91.4	**0.0432**	—0.1	88.6	**0.0420**	0.7
5	.....	**0.0464**	......	97.2	**0.0453**	1.0	94.2	**0.0441**	0.4	91.4	**0.0430**	0.2	88.5	**0.0418**	0.8
4	....	**0.0462**	......	97.2	**0.0451**	0.9	94.2	**0.0439**	0.3	91.3	**0.0428**	0.3	88.5	**0.0416**	0.9
3	......	**0.0460**	......	97.2	**0.0449**	0.8	94.2	**0.0437**	0.2	91.3	**0.0426**	0.4	88.4	**0.0414**	1.0
2	......	**0.0458**	......	97.2	**0.0447**	0.7	94.2	**0.0435**	+0.1	91.3	**0.0424**	0.5	88.4	**0.0412**	1.1
1	......	**0.0456**	......	97.2	**0.0445**	0.6	94.2	**0.0433**	±0.0	91.2	**0.0422**	0.6	88.3	**0.0410**	1.2
0	......	**0.0454**	......	97.1	**0.0443**	0.5	94.1	**0.0431**	—0.1	91.2	**0.0420**	0.7	88.3	**0.0408**	1.3
+0.9	.....	**0.0451**	.....	97.1	**0.0440**	0.3	94.1	**0.0428**	—0.3	91.1	**0.0417**	—0.8	88.2	**0.0405**	—1.5
8	.....	**0.0449**	......	97.1	**0.0438**	0.2	94.1	**0.0426**	0.4	91.1	**0.0415**	0.9	88.2	**0.0403**	1.6
7	.....	**0.0447**	......	97.1	**0.0436**	+0.1	94.0	**0.0424**	0.5	91.1	**0.0413**	1.1	88.1	**0.0401**	1.7
6	......	**0.0445**	......	97.1	**0.0434**	±0.0	94.0	**0.0422**	0.6	91.1	**0.0411**	1.2	88.1	**0.0399**	1.8
5	......	**0.0443**	......	97.0	**0.0432**	—0.1	94.0	**0.0420**	0.7	91.0	**0.0409**	1.3	88.0	**0.0397**	1.9
4	....	**0.0441**	......	97.0	**0.0430**	0.2	93.9	**0.0418**	0.8	91.0	**0.0407**	1.4	88.0	**0.0395**	2.0
3	......	**0.0439**	......	97.0	**0.0428**	0.3	93.9	**0.0416**	0.9	91.0	**0.0405**	1.5	87.9	**0.0393**	2.1
2	.....	**0.0437**	......	97.0	**0.0426**	0.4	93.9	**0.0414**	1.0	90.9	**0.0403**	1.6	87.9	**0.0391**	2.2
1	......	**0.0435**	......	97.0	**0.0424**	0.5	93.8	**0.0412**	1.1	90.9	**0.0401**	1.7	87.8	**0.0389**	2.3
±0.0	......	**0.0433**	......	96.9	**0.0422**	0.6	93.8	**0.0410**	1.2	90.8	**0.0399**	1.8	87.8	**0.0387**	2.4
±0.0	......	**0.0433**	......	96.9	**0.0422**	—0.6	93.8	**0.0410**	—1.2	90.8	**0.0399**	—1.8	87.8	**0.0387**	—2.4
— 1	......	**0.0431**	......	96.9	**0.0421**	0.7	93.8	**0.0409**	1.3	90.7	**0.0398**	1.9	87.8	**0.0386**	2.5
2	......	**0.0429**	......	96.9	**0.0420**	0.8	93.8	**0.0407**	1.4	90.6	**0.0396**	2.0	87.7	**0.0384**	2.6
3	......	**0.0428**	......	96.9	**0.0418**	0.9	93.8	**0.0405**	1.5	90.5	**0.0394**	2.1	87.6	**0.0382**	2.7
4	......	**0.0426**	......	96.9	**0.0416**	1.0	93.7	**0.0403**	1.6	90.4	**0.0392**	2.2	87.5	**0.0380**	2.8
5	......	**0.0424**	......	96.9	**0.0414**	1.1	93.7	**0.0401**	1.7	90.3	**0.0390**	2.3	87.4	**0.0378**	2.9
6	......	**0.0422**	.....	96.9	**0.0412**	1.2	93.7	**0.0399**	1.8	90.2	**0.0388**	2.4	87.3	**0.0376**	3.0
7	......	**0.0420**	......	96.9	**0.0410**	1.3	93.7	**0.0397**	1.9	90.1	**0.0386**	2.5	87.3	**0.0374**	3.2
8	......	**0.0418**	......	96.9	**0.0408**	1.4	93.7	**0.0395**	2.0	90.0	**0.0384**	2.6	87.2	**0.0372**	3.3
9	......	**0.0416**	......	96.9	**0.0406**	1.5	93.6	**0.0393**	2.1	90.0	**0.0382**	2.7	87.2	**0.0370**	3.4

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+1°.9	85.9	**0.0415**	−0.9	83.0	**0.0403**	−1.6	80.3	**0.0392**	−2.3	77.7	**0.0380**	−2.9	74.9	**0.0369**	−3.6
8	85.8	**0.0413**	1.0	82.9	**0.0401**	1.7	80.3	**0.0390**	2.4	77.6	**0.0378**	3.0	74.8	**0.0367**	3.7
7	85.8	**0.0411**	1.1	82.8	**0.0399**	1.8	80.2	**0.0388**	2.5	77.5	**0.0376**	3.1	74.7	**0.0365**	3.8
6	85.7	**0.0409**	1.2	82.7	**0.0397**	1.9	80.1	**0.0386**	2.6	77.4	**0.0374**	3.2	74.6	**0.0363**	3.9
5	85.6	**0.0407**	1.3	82.6	**0.0395**	2.0	80.0	**0.0384**	2.7	77.3	**0.0372**	3.3	74.5	**0.0361**	4.0
4	85.6	**0.0405**	1.4	82.5	**0.0393**	2.1	79.9	**0.0382**	2.8	77.2	**0.0370**	3.4	74.4	**0.0359**	4.1
3	85.5	**0.0403**	1.6	82.4	**0.0391**	2.2	79.8	**0.0380**	2.9	77.1	**0.0368**	3.5	74.3	**0.0357**	4.2
2	85.4	**0.0401**	1.7	82.4	**0.0389**	2.3	79.7	**0.0378**	3.0	77.0	**0.0366**	3.6	74.2	**0.0355**	4.3
1	85.4	**0.0399**	1.8	82.3	**0.0387**	2.4	79.6	**0.0376**	3.1	76.9	**0.0364**	3.7	74.1	**0.0353**	4.4
0	85.3	**0.0397**	1.9	82.3	**0.0385**	2.5	79.6	**0.0374**	3.2	76.8	**0.0362**	3.8	74.0	**0.0351**	4.5
+0.9	85.3	**0.0394**	−2.1	82.3	**0.0382**	−2.8	79.6	**0.0371**	−3.5	76.7	**0.0359**	−4.0	73.9	**0.0348**	−4.7
8	85.2	**0.0392**	2.3	82.2	**0.0380**	2.9	79.5	**0.0369**	3.6	76.6	**0.0357**	4.2	73.8	**0.0346**	4.9
7	85.2	**0.0390**	2.4	82.2	**0.0378**	3.0	79.4	**0.0367**	3.7	76.5	**0.0355**	4.4	73.7	**0.0344**	5.1
6	85.1	**0.0388**	2.5	82.1	**0.0376**	3.1	79.3	**0.0365**	3.8	76.4	**0.0353**	4.5	73.6	**0.0342**	5.2
5	85.1	**0.0386**	2.6	82.0	**0.0374**	3.2	79.2	**0.0363**	3.9	76.3	**0.0351**	4.6	73.5	**0.0340**	5.3
4	85.0	**0.0384**	2.7	81.9	**0.0372**	3.3	79.1	**0.0361**	4.0	76.2	**0.0349**	4.7	73.4	**0.0338**	5.4
3	85.0	**0.0382**	2.8	81.8	**0.0370**	3.4	79.0	**0.0359**	4.1	76.1	**0.0347**	4.8	73.3	**0.0336**	5.5
2	84.9	**0.0380**	2.9	81.7	**0.0368**	3.5	78.9	**0.0357**	4.2	76.0	**0.0345**	4.9	73.2	**0.0334**	5.6
1	84.8	**0.0378**	3.0	81.7	**0.0366**	3.6	78.8	**0.0355**	4.3	75.9	**0.0343**	5.0	73.1	**0.0332**	5.7
±0.0	84.7	**0.0376**	3.1	81.6	**0.0364**	3.7	78.7	**0.0353**	4.4	75.8	**0.0341**	5.1	72.9	**0.0330**	5.8
±0.0	84.7	**0.0376**	−3.1	81.6	**0.0364**	−3.7	78.7	**0.0353**	−4.4	75.8	**0.0341**	−5.1	72.9	**0.0330**	−5.8
1	84.7	**0.0375**	3.2	81.6	**0.0363**	3.9	78.6	**0.0352**	4.6	75.7	**0.0340**	5.3	72.8	**0.0329**	6.0
2	84.6	**0.0373**	3.3	81.5	**0.0361**	4.1	78.6	**0.0350**	4.8	75.6	**0.0338**	5.5	72.7	**0.0327**	6.2
3	84.5	**0.0371**	3.4	81.4	**0.0359**	4.2	78.5	**0.0348**	4.9	75.5	**0.0336**	5.6	72.6	**0.0325**	6.4
4	84.4	**0.0369**	3.5	81.4	**0.0357**	4.3	78.4	**0.0346**	5.0	75.4	**0.0334**	5.7	72.5	**0.0323**	6.5
5	84.3	**0.0367**	3.6	81.3	**0.0355**	4.4	78.4	**0.0344**	5.1	75.3	**0.0332**	5.8	72.4	**0.0321**	6.6
6	84.3	**0.0365**	3.7	81.2	**0.0353**	4.5	78.3	**0.0342**	5.2	75.2	**0.0330**	5.9	72.3	**0.0319**	6.7
7	84.2	**0.0363**	3.8	81.2	**0.0351**	4.6	78.2	**0.0340**	5.3	75.1	**0.0328**	6.0	72.2	**0.0317**	6.8
8	84.1	**0.0361**	3.9	81.1	**0.0349**	4.7	78.1	**0.0338**	5.4	75.1	**0.0326**	6.1	72.1	**0.0315**	6.9
9	84.0	**0.0359**	4.0	81.0	**0.0347**	4.8	78.0	**0.0336**	5.5	75.0	**0.0324**	6.2	72.0	**0.0313**	7.0

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.0			1°.1			1°.2			1°.3			1°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+1°.9	72.1	**0.0358**	—4.2	69.5	**0.0346**	—4.9	66.8	**0.0334**	—5.6	64.4	**0.0323**	—6.4	61.8	**0.0311**	—7.1
8	72.0	**0.0356**	4.4	69.3	**0.0344**	5.1	66.6	**0.0332**	5.8	64.2	**0.0321**	6.6	61.7	**0.0309**	7.3
7	71.9	**0.0354**	4.5	69.2	**0.0342**	5.3	66.5	**0.0330**	5.9	64.0	**0.0319**	6.8	61.5	**0.0307**	7.5
6	71.8	**0.0352**	4.6	69.1	**0.0340**	5.4	66.4	**0.0328**	6.0	63.8	**0.0317**	6.9	61.4	**0.0305**	7.7
5	71.7	**0.0350**	4.7	69.0	**0.0338**	5.5	66.3	**0.0326**	6.1	63.7	**0.0315**	7.0	61.2	**0.0303**	7.8
4	71.6	**0.0348**	4.8	68.9	**0.0336**	5.6	66.2	**0.0324**	6.2	63.6	**0.0313**	7.1	61.1	**0.0301**	7.9
3	71.5	**0.0346**	4.9	68.8	**0.0334**	5.7	66.1	**0.0322**	6.3	63.5	**0.0311**	7.2	60.9	**0.0299**	8.0
2	71.4	**0.0344**	5.0	68.7	**0.0332**	5.8	66.0	**0.0320**	6.4	63.4	**0.0309**	7.3	60.8	**0.0297**	8.1
1	71.3	**0.0342**	5.1	68.6	**0.0330**	5.9	65.9	**0.0318**	6.5	63.3	**0.0307**	7.4	60.6	**0.0295**	8.2
0	71.2	**0.0339**	5.2	68.5	**0.0328**	6.0	65.8	**0.0316**	6.7	63.2	**0.0305**	7.5	60.5	**0.0293**	8.3
+0.9	71.0	**0.0336**	—5.4	68.3	**0.0326**	—6.2	65.6	**0.0313**	—6.9	63.0	**0.0202**	—7.7	60.3	**0.0291**	—8.5
8	70.8	**0.0334**	5.6	68.1	**0.0324**	6.4	65.4	**0.0311**	7.1	62.9	**0.0300**	7.8	60.1	**0.0289**	8.6
7	70.7	**0.0332**	5.8	67.9	**0.0322**	6.6	65.2	**0.0309**	7.3	62.7	**0.0298**	8.0	60.0	**0.0287**	8.8
6	70.6	**0.0330**	6.0	67.8	**0.0320**	6.8	65.0	**0.0307**	7.4	62.6	**0.0296**	8.1	59.8	**0.0285**	8.9
5	70.5	**0.0328**	6.1	67.7	**0.0318**	6.9	64.9	**0.0305**	7.5	62.4	**0.0294**	8.3	59.7	**0.0283**	9.1
4	70.4	**0.0326**	6.2	67.6	**0.0316**	7.0	64.8	**0.0303**	7.6	62.3	**0.0292**	8.5	59.5	**0.0281**	9.2
3	70.3	**0.0324**	6.3	67.5	**0.0314**	7.1	64.7	**0.0301**	7.7	62.1	**0.0290**	8.6	59.4	**0.0279**	9.4
2	70.2	**0.0322**	6.4	67.4	**0.0312**	7.2	64.6	**0.0299**	7.8	61.9	**0.0288**	8.7	59.2	**0.0277**	9.5
1	70.1	**0.0320**	6.5	67.3	**0.0310**	7.3	64.5	**0.0297**	7.9	61.8	**0.0286**	8.8	59.0	**0.0275**	9.7
±0.0	70.0	**0.0318**	6.6	67.2	**0.0307**	7.4	64.4	**0.0295**	8.1	61.7	**0.0284**	9.0	58.9	**0.0272**	9.8
±0.0	70.0	**0.0318**	—6.6	67.2	**0.0307**	—7.4	64.4	**0.0295**	—8.1	61.7	**0.0284**	—9.0	58.9	**0.0272**	—9.8
— 1	69.9	**0.0316**	6.8	67.0	**0.0305**	7.6	64.2	**0.0293**	8.3	61.5	**0.0282**	9.2	58.7	**0.0270**	9.9
2	69.8	**0.0314**	6.9	66.8	**0.0303**	7.8	64.0	**0.0291**	8.4	61.3	**0.0280**	9.3	58.5	**0.0268**	10.1
3	69.7	**0.0312**	7.1	66.7	**0.0301**	8.0	63.8	**0.0289**	8.6	61.1	**0.0278**	9.5	58.3	**0.0266**	10.2
4	69.6	**0.0310**	7.2	66.6	**0.0299**	8.1	63.6	**0.0287**	8.7	60.9	**0.0276**	9.6	58.1	**0.0264**	10.4
5	69.5	**0.0308**	7.4	66.5	**0.0297**	8.2	63.5	**0.0285**	8.9	60.7	**0.0274**	9.8	57.9	**0.0262**	10.5
6	69.4	**0.0306**	7.5	66.4	**0.0295**	8.3	63.4	**0.0283**	9.0	60.5	**0.0272**	9.9	57.7	**0.0260**	10.7
7	69.3	**0.0304**	7.6	66.3	**0.0293**	8.4	63.3	**0.0281**	9.2	60.3	**0.0270**	10.1	57.5	**0.0258**	10.8
8	69.2	**0.0302**	7.7	66.2	**0.0291**	8.5	63.2	**0.0279**	9.3	60.2	**0.0268**	10.2	57.3	**0.0256**	11.0
9	69.1	**0.0300**	7.8	66.1	**0.0289**	8.6	63.1	**0.0277**	9.5	60.1	**0.0266**	10.4	57.1	**0.0254**	11.1

DIFFERENCE OF DRY AND WET BULB THERMOMETERS.

Wet-bulb thermometer, t, Fahrenheit.	1°.5			1°.6			1°.7			1°.8			1°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
+1°.9	59.3	0.0300	— 7.7	56.9	0.0288	— 8.6	54.4	0.0276	— 9.3	51.8	0.0264	—10.2	49.3	0.0253	—11.1
8	59.1	0.0298	7.9	56.7	0.0286	8.7	54.2	0.0274	9.5	51.6	0.0262	10.4	49.1	0.0251	11.2
7	58.9	0.0296	8.0	56.5	0.0284	8.9	54.0	0.0272	9.7	51.4	0.0260	10.6	48.9	0.0249	11.3
6	58.8	0.0294	8.2	56.3	0.0282	9.1	53.8	0.0270	9.9	51.2	0.0258	10.8	48.7	0.0247	11.5
5	58.6	0.0292	8.3	56.1	0.0280	9.2	53.6	0.0268	10.1	51.0	0.0256	11.0	48.5	0.0245	11.7
4	58.5	0.0290	8.5	55.9	0.0278	9.4	53.4	0.0266	10.3	50.8	0.0254	11.2	48.3	0.0243	11.9
3	58.4	0.0288	8.6	55.7	0.0276	9.6	53.2	0.0264	10.5	50.6	0.0252	11.4	48.1	0.0241	12.1
2	58.2	0.0286	8.8	55.5	0.0274	9.7	53.0	0.0262	10.7	50.4	0.0250	11.6	47.9	0.0239	12.3
1	58.1	0.0284	9.0	55.4	0.0272	9.9	52.8	0.0260	10.9	50.2	0.0248	11.8	47.7	0.0237	12.5
0	57.9	0.0284	9.1	55.3	0.0269	10.0	52.7	0.0258	11.0	50.1	0.0246	11.9	47.5	0.0235	12.7
+0.9	57.7	0.0279	9.3	55.2	0.0267	10.2	52.6	0.0256	11.2	50.0	0.0244	—12.2	47.3	0.0233	—12.8
8	57.5	0.0277	9.5	55.1	0.0265	10.4	52.4	0.0254	11.3	49.8	0.0242	12.4	47.1	0.0231	13.0
7	57.4	0.0275	9.6	54.9	0.0263	10.5	52.2	0.0252	11.5	49.6	0.0240	12.6	46.9	0.0229	13.2
6	57.2	0.0273	9.8	54.7	0.0261	10.7	52.0	0.0250	11.6	49.4	0.0238	12.8	46.7	0.0227	13.4
5	57.1	0.0271	9.9	54.5	0.0259	10.8	51.8	0.0248	11.8	49.2	0.0236	13.0	46.5	0.0225	13.6
4	56.9	0.0269	10.1	54.3	0.0257	11.0	51.6	0.0246	11.9	49.0	0.0234	13.1	46.3	0.0223	13.8
3	56.8	0.0267	10.2	54.1	0.0255	11.1	51.4	0.0244	12.1	48.8	0.0232	13.2	46.1	0.0221	14.0
2	56.6	0.0265	10.4	53.9	0.0253	11.3	51.2	0.0242	12.2	48.6	0.0230	13.3	45.9	0.0219	14.2
+ 1	56.5	0.0263	10.5	53.7	0.0251	11.4	51.0	0.0240	12.4	48.4	0.0228	13.4	45.7	0.0217	14.4
±0.0	56.3	0.0261	10.7	53.6	0.0249	11.6	50.9	0.0238	12.5	48.2	0.0226	13.5	45.5	0.0215	14.6
±0.0	56.2	0.0261	—10.7	53.6	0.0249	—11.6	50.9	0.0238	—12.5	48.2	0.0226	—13.5	45.5	0.0215	—14.6
— 1	56.0	0.0258	11.0	53.3	0.0246	11.9	50.6	0.0235	12.8	47.9	0.0223	13.8	45.1	0.0211	14.9
2	55.8	0.0256	11.1	53.1	0.0244	12.0	50.4	0.0233	12.9	47.7	0.0221	14.0	44.9	0.0210	15.1
3	55.6	0.0255	11.2	52.9	0.0243	12.1	50.2	0.0232	13.1	47.5	0.0220	14.1	44.7	0.0208	15.3
4	55.4	0.0253	11.3	52.7	0.0241	12.3	50.0	0.0230	13.2	47.3	0.0218	14.3	44.5	0.0207	15.4
5	55.2	0.0251	11.4	52.5	0.0240	12.4	49.8	0.0229	13.4	47.1	0.0217	14.4	44.3	0.0205	15.6
6	55.0	0.0250	11.5	52.3	0.0238	12.5	49.6	0.0227	13.5	46.9	0.0215	14.6	44.1	0.0204	15.7
7	54.8	0.0248	11.6	52.1	0.0237	12.6	49.4	0.0226	13.7	46.7	0.0214	14.7	43.9	0.0202	15.9
8	54.6	0.0246	11.7	51.9	0.0235	12.7	49.2	0.0224	13.8	46.5	0.0212	14.9	43.7	0.0201	16.0
9	54.4	0.0245	11.9	51.7	0.0233	12.9	49.0	0.0222	13.9	46.3	0.0210	15.0	43.5	0.0199	16.1

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS. 0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—1°.0	......	**0.0414**	......	96.8	**0.0403**	—1.6	93.6	**0.0391**	—2.2	90.0	**0.0380**	—2.8	87.2	**0.0368**	—3.5
1	......	**0.0412**	......	96.8	**0.0401**	1.7	93.6	**0.0390**	2.3	90.0	**0.0378**	3.0	87.1	**0.0366**	3.7
2	......	**0.0410**	......	96.8	**0.0399**	1.8	93.6	**0.0388**	2.4	90.0	**0.0376**	3.1	87.1	**0.0364**	3.8
3	......	**0.0408**	......	96.8	**0.0397**	1.9	93.6	**0.0386**	2.5	90.0	**0.0374**	3.2	87.0	**0.0362**	3.9
4	......	**0.0406**	......	96.8	**0.0395**	2.0	93.6	**0.0384**	2.6	90.0	**0.0372**	3.3	87.0	**0.0360**	4.0
5	......	**0.0404**	......	96.8	**0.0393**	2.1	93.5	**0.0382**	2.7	90.0	**0.0370**	3.4	86.9	**0.0358**	4.1
6	......	**0.0402**	......	96.8	**0.0391**	2.2	93.5	**0.0380**	2.8	90.0	**0.0368**	3.5	86.9	**0.0356**	4.2
7	......	**0.0400**	......	96.8	**0.0389**	2.3	93.5	**0.0378**	2.9	90.0	**0.0366**	3.6	86.8	**0.0354**	4.3
8	......	**0.0398**	......	96.8	**0.0387**	2.4	93.5	**0.0376**	3.0	90.0	**0.0364**	3.7	86.8	**0.0352**	4.4
9	......	**0.0396**	......	96.8	**0.0385**	2.5	93.5	**0.0374**	3.1	90.0	**0.0362**	3.8	86.7	**0.0350**	4.5
—2.0	......	**0.0395**	......	96.7	**0.0384**	—2.6	93.4	**0.0372**	—3.2	90.0	**0.0361**	—3.9	86.6	**0.0349**	—4.6
1	......	**0.0393**	......	96.7	**0.0382**	2.7	93.4	**0.0370**	3.4	90.0	**0.0360**	4.1	86.6	**0.0348**	4.8
2	......	**0.0391**	......	96.7	**0.0380**	2.8	93.4	**0.0368**	3.5	90.0	**0.0358**	4.2	86.5	**0.0346**	4.9
3	......	**0.0389**	......	96.7	**0.0378**	2.9	93.3	**0.0366**	3.6	90.0	**0.0356**	4.3	86.5	**0.0344**	5.1
4	......	**0.0387**	......	96.7	**0.0376**	3.0	93.3	**0.0364**	3.7	90.0	**0.0354**	4.4	86.4	**0.0342**	5.2
5	......	**0.0385**	......	96.6	**0.0374**	3.1	93.3	**0.0362**	3.8	90.0	**0.0352**	4.5	86.4	**0.0340**	5.3
6	......	**0.0383**	......	96.6	**0.0372**	3.2	93.2	**0.0360**	3.9	90.0	**0.0350**	4.6	86.3	**0.0338**	5.4
7	......	**0.0381**	......	96.6	**0.0370**	3.3	93.2	**0.0358**	4.0	90.0	**0.0348**	4.7	86.3	**0.0336**	5.5
8	......	**0.0379**	......	96.6	**0.0368**	3.4	93.2	**0.0356**	4.1	90.0	**0.0346**	4.8	86.2	**0.0334**	5.6
9	......	**0.0377**	......	96.6	**0.0366**	3.5	93.1	**0.0354**	4.2	90.0	**0.0344**	4.9	86.1	**0.0332**	5.7
—3.0	......	**0.0376**	......	96.5	**0.0365**	—3.7	93.1	**0.0353**	—4.4	90.0	**0.0342**	—5.0	86.1	**0.0330**	—5.8
1	......	**0.0375**	......	96.5	**0.0364**	3.8	93.1	**0.0352**	4.5	89.9	**0.0341**	5.2	86.1	**0.0329**	5.9
2	......	**0.0374**	......	96.5	**0.0363**	3.9	93.0	**0.0351**	4.6	89.9	**0.0340**	5.3	86.0	**0.0328**	6.1
3	......	**0.0372**	......	96.5	**0.0361**	4.0	93.0	**0.0350**	4.7	89.8	**0.0338**	5.4	86.0	**0.0326**	6.2
4	......	**0.0370**	......	96.5	**0.0359**	4.1	93.0	**0.0348**	4.8	89.7	**0.0336**	5.5	85.9	**0.0324**	6.3
5	......	**0.0368**	......	96.5	**0.0357**	4.2	92.9	**0.0346**	4.9	89.6	**0.0334**	5.6	85.9	**0.0322**	6.4
6	......	**0.0366**	......	96.5	**0.0355**	4.3	92.9	**0.0344**	5.0	89.5	**0.0332**	5.7	85.8	**0.0320**	6.5
7	......	**0.0364**	......	96.5	**0.0353**	4.4	92.9	**0.0342**	5.1	89.4	**0.0330**	5.8	85.8	**0.0318**	6.6
8	......	**0.0362**	......	96.5	**0.0351**	4.5	92.8	**0.0340**	5.2	89.3	**0.0328**	5.9	85.7	**0.0316**	6.7
9	......	**0.0360**	......	96.5	**0.0349**	4.6	92.8	**0.0338**	5.3	89.3	**0.0326**	6.0	85.6	**0.0314**	6.8

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—1°.0	84.0	**0.0357**	—4.1	81.0	**0.0345**	—4.9	78.0	**0.0334**	—5.6	75.0	**0.0322**	—6.3	72.0	**0.0311**	— 7.1
1	83.9	**0.0356**	4.3	80.9	**0.0344**	5.1	77.8	**0.0332**	5.8	74.9	**0.0320**	6.5	71.9	**0.0310**	7.3
2	83.8	**0.0354**	4.5	80.8	**0.0342**	5.3	77.6	**0.0330**	5.9	74.8	**0.0318**	6.7	71.8	**0.0308**	7.5
3	83.7	**0.0352**	4.6	80.7	**0.0340**	5.4	77.4	**0.0328**	6.1	74.7	**0.0316**	6.8	71.7	**0.0306**	7.6
4	83.6	**0.0350**	4.7	80.6	**0.0338**	5.5	77.2	**0.0326**	6.2	74.6	**0.0314**	6.9	71.6	**0.0304**	7.7
5	83.5	**0.0348**	4.8	80.5	**0.0336**	5.6	77.0	**0.0324**	6.3	74.5	**0.0312**	7.0	71.5	**0.0302**	7.8
6	83.4	**0.0346**	4.9	80.4	**0.0334**	5.7	76.8	**0.0322**	6.4	74.4	**0.0310**	7.2	71.4	**0.0300**	7.9
7	83.3	**0.0344**	5.0	80.3	**0.0332**	5.8	76.6	**0.0320**	6.5	74.3	**0.0308**	7.3	71.3	**0.0298**	8.0
8	83.2	**0.0342**	5.1	80.2	**0.0330**	5.9	76.4	**0.0318**	6.6	74.2	**0.0306**	7.4	71.2	**0.0296**	8.2
9	83.1	**0.0340**	5.2	80.1	**0.0328**	6.0	76.2	**0.0316**	6.7	74.1	**0.0304**	7.5	71.1	**0.0294**	8.3
—2.0	83.0	**0.0338**	—5.3	80.0	**0.0326**	—6.1	76.0	**0.0315**	—6.8	74.0	**0.0303**	—7.6	71.0	**0.0292**	— 8.4
1	83.0	**0.0336**	5.5	79.9	**0.0324**	6.3	75.9	**0.0314**	7.0	73.8	**0.0302**	7.8	70.8	**0.0290**	8.6
2	83.0	**0.0334**	5.7	79.8	**0.0322**	6.5	75.8	**0.0312**	7.2	73.6	**0.0300**	8.0	70.6	**0.0288**	8.7
3	83.0	**0.0332**	5.8	79.7	**0.0320**	6.6	75.7	**0.0310**	7.3	73.4	**0.0298**	8.2	70.4	**0.0286**	8.9
4	83.0	**0.0330**	5.9	79.6	**0.0318**	6.7	75.6	**0.0308**	7.4	73.2	**0.0296**	8.3	70.2	**0.0284**	9.0
5	83.0	**0.0328**	6.0	79.5	**0.0316**	6.8	75.5	**0.0306**	7.5	73.0	**0.0294**	8.4	70.0	**0.0282**	9.2
6	83.0	**0.0326**	6.1	79.4	**0.0314**	6.9	75.4	**0.0304**	7.6	72.8	**0.0292**	8.5	69.8	**0.0280**	9.3
7	83.0	**0.0324**	6.2	79.3	**0.0312**	7.0	75.3	**0.0302**	7.7	72.6	**0.0290**	8.6	69.6	**0.0278**	9.5
8	83.0	**0.0322**	6.3	79.2	**0.0310**	7.1	75.2	**0.0300**	7.8	72.4	**0.0288**	8.7	69.4	**0.0276**	9.6
9	83.0	**0.0320**	6.4	79.1	**0.0308**	7.2	75 1	**0.0298**	7.9	72.2	**0.0286**	8.8	69.2	**0.0274**	9.7
—3.0	83.0	**0.0319**	—6.5	79.0	**0.0307**	—7.3	75.0	**0.0296**	—8.1	72.0	**0.0284**	—8.9	69.0	**0.0273**	— 9.8
1	82.9	**0.0318**	6.7	78.9	**0.0306**	7.5	74.9	**0.0295**	8.3	71.9	**0.0283**	9.1	68.9	**0.0272**	10.0
2	82.8	**0.0317**	6.8	78.8	**0.0305**	7.6	74.8	**0.0294**	8.4	71.8	**0.0282**	9.2	68.8	**0.0271**	10.2
3	82.7	**0.0316**	6.9	78.7	**0.0304**	7.7	74.7	**0.0292**	8.5	71.7	**0.0280**	9.3	68.7	**0.0270**	10.3
4	82.6	**0.0314**	7.0	78.6	**0.0302**	7.8	74.6	**0.0290**	8.6	71.6	**0.0278**	9.4	68.6	**0.0268**	10.4
5	82.5	**0.0312**	7.1	78.5	**0.0300**	7.9	74.5	**0.0288**	8.7	71.5	**0.0276**	9.5	68.5	**0.0266**	10.5
6	82.4	**0.0310**	7.2	78.4	**0.0298**	8.0	74.4	**0.0286**	8.8	71.4	**0.0274**	9.6	68.4	**0.0264**	10.6
7	82.3	**0.0308**	7.3	78.3	**0.0296**	8.1	74.3	**0.0284**	8.9	71.3	**0.0272**	9.8	68.3	**0.0262**	10.7
8	82.2	**0.0306**	7.4	78.2	**0.0294**	8.2	74.2	**0.0282**	9.0	71.2	**0.0270**	10.0	68.2	**0.0260**	10.8
9	82.1	**0.0304**	7.6	78.1	**0.0292**	8.4	74.1	**0.0280**	9.2	71.1	**0.0268**	10.1	68.1	**0.0258**	11.0

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.0			1°.1			1°.2			1°.3			1°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—1°.0	69.0	**0.0299**	7.9	66.0	**0.0287**	— 8.7	63.0	**0.0275**	— 9.6	60.0	**0.0264**	—10.5	57.0	**0.0253**	—11.3
1	68.9	**0.0297**	8.1	65.8	**0.0285**	8.9	62.9	**0.0273**	9.7	59.8	**0.0262**	10.7	56.8	**0.0251**	11.4
2	68.8	**0.0295**	8.3	65.6	**0.0283**	9.1	62.8	**0.0271**	9.9	59.6	**0.0260**	10.9	56.6	**0.0249**	11.6
3	68.7	**0.0293**	8.5	65.4	**0.0281**	9.3	62.7	**0.0269**	10.0	59.4	**0.0258**	11.1	56.4	**0.0247**	11.7
4	68.6	**0.0291**	8.6	65.2	**0.0279**	9.5	62.6	**0.0267**	10.2	59.2	**0.0256**	11.2	56.2	**0.0245**	11.9
5	68.5	**0.0289**	8.7	65.0	**0.0277**	9.6	62.5	**0.0265**	10.3	59.0	**0.0254**	11.3	56.0	**0.0243**	12.0
6	68.4	**0.0287**	8.8	64.8	**0.0275**	9.7	62.4	**0.0263**	10.5	58.8	**0.0252**	11.4	55.8	**0.0241**	12.2
7	68.3	**0.0285**	8.9	64.6	**0.0273**	9.8	62.3	**0.0261**	10.6	58.6	**0.0250**	11.5	55.6	**0.0239**	12.3
8	68.2	**0.0283**	9.0	64.4	**0.0271**	9.9	62.2	**0.0259**	10.8	58.4	**0.0248**	11.6	55.4	**0.0237**	12.5
9	68.1	**0.0281**	9.1	64.2	**0.0269**	10.0	62.1	**0.0257**	10.9	58.2	**0.0246**	11.7	55.2	**0.0235**	12.6
—2.0	68.0	**0.0280**	— 9.2	64.0	**0.0268**	—10.1	62.0	**0.0256**	—11.1	58.0	**0.0245**	—11.9	55.0	**0.0234**	—12.8
1	67.8	**0.0278**	9.4	63.9	**0.0267**	10.3	61.8	**0.0255**	11.3	57.9	**0.0244**	12.1	54.9	**0.0233**	12.9
2	67.6	**0.0276**	9.6	63.8	**0.0265**	10.5	61.6	**0.0253**	11.5	57.8	**0.0242**	12.3	54.8	**0.0231**	13.1
3	67.4	**0.0274**	9.8	63.7	**0.0263**	10.7	61.4	**0.0251**	11.7	57.7	**0.0240**	12.5	54.7	**0.0229**	13.3
4	67.2	**0.0272**	10.0	63.6	**0.0261**	10.8	61.2	**0.0249**	11.9	57.6	**0.0238**	12.7	54.6	**0.0227**	13.5
5	67.0	**0.0270**	10.1	63.5	**0.0259**	10.9	61.0	**0.0247**	12.0	57.5	**0.0236**	12.9	54.5	**0.0225**	13.7
6	66.8	**0.0268**	10.2	63.4	**0.0257**	11.0	60.8	**0.0245**	12.1	57.4	**0.0234**	13.1	54.4	**0.0223**	13.9
7	66.6	**0.0266**	10.3	63.3	**0.0255**	11.1	60.6	**0.0243**	12.2	57.3	**0.0232**	13.2	54.3	**0.0221**	14.1
8	66.4	**0.0264**	10.4	63.2	**0.0253**	11.2	60.4	**0.0241**	12.3	57.2	**0.0230**	13.3	54.2	**0.0219**	14.3
9	66.2	**0.0262**	10.5	63.1	**0.0251**	11.3	60.2	**0.0239**	12.4	57.1	**0.0228**	13.4	54.1	**0.0217**	14.5
—3.0	66.0	**0.0261**	—10.6	63.0	**0.0250**	—11.5	60.0	**0.0238**	—12.5	57.0	**0.0227**	—13.5	54.0	**0.0216**	—14.7
1	65.9	**0.0260**	10.8	62.8	**0.0249**	11.7	59.8	**0.0237**	12.7	56.8	**0.0226**	13.7	53.8	**0.0215**	14.7
2	65.8	**0.0259**	11.0	62.6	**0.0248**	11.9	59.6	**0.0236**	12.8	56.6	**0.0225**	13.8	53.6	**0.0214**	14.8
3	65.7	**0.0258**	11.2	62.4	**0.0247**	12.1	59.4	**0.0235**	13.0	56.4	**0.0224**	14.0	53.4	**0.0213**	15.0
4	65.6	**0.0256**	11.4	62.2	**0.0245**	12.3	59.2	**0.0233**	13.2	56.2	**0.0222**	14.1	53.2	**0.0211**	15.1
5	65.5	**0.0254**	11.5	62.0	**0.0243**	12.4	59.0	**0.0231**	13.3	56.0	**0.0220**	14.3	53.0	**0.0209**	15.3
6	65.4	**0.0252**	11.6	61.8	**0.0241**	12.5	58.8	**0.0229**	13.5	55.8	**0.0218**	14.4	52.8	**0.0207**	15.4
7	65.3	**0.0250**	11.7	61.6	**0.0239**	12.6	58.6	**0.0227**	13.6	55.6	**0.0216**	14.6	52.6	**0.0205**	15.6
8	65.2	**0.0248**	11.8	61.4	**0.0237**	12.7	58.4	**0.0225**	13.7	55.4	**0.0214**	14.7	52.4	**0.0203**	15.7
9	65.1	**0.0246**	11.9	61.2	**0.0235**	12.8	58.2	**0.0223**	13.9	55.2	**0.0212**	14.9	52.2	**0.0201**	15.9

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.5			1°.6			1°.7			1°.8			1°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—1°.0	54.2	**0.0243**	—12.1	51.5	**0.0231**	—13.0	48.8	**0.0220**	—14.1	46.1	**0.0208**	—15.3	43.4	**0.0197**	—16.3
1	54.0	**0.0240**	12.2	51.2	**0.0229**	13.2	48.5	**0.0218**	14.3	45.8	**0.0206**	15.5	43.2	**0.0195**	16.6
2	53.8	**0.0238**	12.4	50.9	**0.0227**	13.4	48.3	**0.0216**	14.4	45.5	**0.0204**	15.6	43.0	**0.0193**	16.8
3	53.6	**0.0236**	12.6	50.7	**0.0225**	13.6	48.1	**0.0214**	14.6	45.3	**0.0202**	15.8	42.7	**0.0191**	17.0
4	53.4	**0.0234**	12.8	59.5	**0.0223**	13.8	47.9	**0.0212**	14.8	45.1	**0.0200**	16.0	42.5	**0.0189**	17.2
5	53.2	**0.0232**	13.0	50.3	**0.0221**	14.0	47.7	**0.0210**	15.0	44.9	**0.0198**	16.2	42.2	**0.0187**	17.4
6	53.0	**0.0230**	13.2	50.1	**0.0219**	14.2	47.5	**0.0208**	15.2	44.7	**0.0196**	16.4	42.0	**0.0185**	17.6
7	52.8	**0.0228**	13.4	49.9	**0.0217**	14.4	47.3	**0.0206**	15.4	44.5	**0.0194**	16.6	41.7	**0.0183**	17.8
8	52.6	**0.0226**	13.6	49.7	**0.0215**	14.6	47.1	**0.0204**	15.6	44.3	**0.0192**	16.8	41.5	**0.0181**	18.0
9	52.4	**0.0224**	13.8	49.5	**0.0213**	14.8	46.9	**0.0202**	15.8	44.1	**0.0190**	17.0	41.2	**0.0179**	18.2
—2°.0	52.2	**0.0222**	—13.9	49.4	**0.0211**	—15.0	46.6	**0.0200**	—16.0	43.8	**0.0188**	—17.2	41.0	**0.0177**	—18.4
1	52.1	**0.0220**	14.1	49.3	**0.0209**	15.2	46.3	**0.0198**	16.2	43.5	**0.0186**	17.5	40.7	**0.0174**	18.7
2	52.0	**0.0218**	14.3	49.1	**0.0207**	15.4	46.1	**0.0196**	16.4	43.2	**0.0184**	17.8	40.4	**0.0172**	19.0
3	51.8	**0.0216**	14.5	48.9	**0.0205**	15.6	45.9	**0.0194**	16.6	43.0	**0.0182**	18.0	40.1	**0.0170**	19.2
4	51.7	**0.0214**	14.7	48.7	**0.0203**	15.8	45.7	**0.0192**	16.9	42.8	**0.0180**	18.2	39.8	**0.0168**	19.4
5	51.5	**0.0212**	14.9	48.5	**0.0201**	16.0	45.5	**0.0190**	17.2	42.6	**0.0178**	18.4	39.5	**0.0166**	19.6
6	51.4	**0.0210**	15.1	48.3	**0.0199**	16.2	45.3	**0.0188**	17.4	42.4	**0.0176**	18.6	39.2	**0.0164**	19.8
7	51.2	**0.0208**	15.3	48.1	**0.0197**	16.4	45.1	**0.0186**	17.6	42.1	**0.0174**	18.8	38.9	**0.0162**	20.0
8	51.1	**0.0206**	15.5	47.9	**0.0195**	16.6	44.9	**0.0184**	17.8	41.8	**0.0172**	19.0	38.6	**0.0160**	20.2
9	50.9	**0.0204**	15.7	47.7	**0.0193**	16.8	44.7	**0.0182**	18.0	41.5	**0.0170**	19.2	38.3	**0.0158**	20.4
—3.0	50.8	**0.0202**	—15.9	47.6	**0.0191**	—17.0	44.4	**0.0179**	—18.2	41.2	**0.0168**	—19.4	38.0	**0.0156**	—20.7
1	50.6	**0.0200**	16.0	47.4	**0.0190**	17.1	44.1	**0.0177**	18.4	41.0	**0.0166**	19.5	37.8	**0.0154**	20.8
2	50.4	**0.0199**	16.2	47.2	**0.0188**	17.3	43.9	**0.0176**	18.5	40.7	**0.0165**	19.7	37.6	**0.0153**	21.0
3	50.2	**0.0197**	16.3	47.0	**0.0187**	17.4	43.7	**0.0174**	18.7	40.4	**0.0163**	19.9	37.4	**0.0151**	21.2
4	50.0	**0.0196**	16.5	46.8	**0.0185**	17.6	43.5	**0.0173**	18.9	40.1	**0.0162**	20.1	37.2	**0.0150**	21.4
5	49.8	**0.0194**	16.6	46.6	**0.0184**	17.7	43.3	**0.0171**	19.0	39.9	**0.0160**	20.3	37.0	**0.0148**	21.6
6	49.6	**0.0193**	16.8	46.4	**0.0182**	17.9	43.1	**0.0170**	19.2	39.7	**0.0159**	20.5	36.8	**0.0147**	21.8
7	49.4	**0.0191**	16.9	46.2	**0.0181**	18.0	42.9	**0.0168**	19.4	39.5	**0.0157**	20.7	36.6	**0.0145**	22.0
8	49.2	**0.0190**	17.1	46.0	**0.0179**	18.2	42.7	**0.0167**	19.5	39.3	**0.0156**	20.9	36.4	**0.0144**	22.2
9	49.0	**0.0188**	17.2	45.8	**0.0178**	18.3	42.5	**0.0165**	19.7	39.1	**0.0154**	21.1	36.2	**0.0142**	22.4

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—4°.0	......	**0.0359**	......	96.4	**0.0348**	—4.7	92.8	**0.0336**	—5.4	89.2	**0.0325**	—6.1	85.5	**0.0313**	—6.9
1	......	**0.0358**	......	96.4	**0.0346**	4.8	92.8	**0.0334**	5.6	89.2	**0.0323**	6.3	85.5	**0.0311**	7.1
2	......	**0.0356**	......	96.4	**0.0345**	4.9	92.8	**0.0333**	5.7	89.2	**0.0322**	6.4	85.4	**0.0310**	7.2
3	......	**0.0355**	......	96.4	**0.0344**	5.0	92.7	**0.0331**	5.8	89.2	**0.0320**	6.5	85.3	**0.0308**	7.3
4	......	**0.0354**	......	96.4	**0.0342**	5.1	92.7	**0.0330**	5.9	89.2	**0.0319**	6.6	85.3	**0.0307**	7.4
5	......	**0.0352**	......	96.3	**0.0341**	5.2	92.7	**0.0328**	6.0	89.1	**0.0317**	6.7	85.2	**0.0305**	7.5
6	......	**0.0350**	......	96.3	**0.0340**	5.3	92.6	**0.0327**	6.1	89.1	**0.0316**	6.8	85.1	**0.0304**	7.6
7	......	**0.0348**	......	96.3	**0.0338**	5.4	92.6	**0.0325**	6.2	89.1	**0.0314**	6.9	85.1	**0.0302**	7.7
8	......	**0.0346**	......	96.3	**0.0336**	5.5	92.6	**0.0324**	6.3	89.1	**0.0313**	7.0	85.0	**0.0301**	7.8
9	......	**0.0344**	......	96.3	**0.0334**	5.6	92.5	**0.0322**	6.4	89.1	**0.0311**	7.1	84.9	**0.0299**	7.9
—5.0	......	**0.0343**	......	96.2	**0.0332**	—5.7	92.5	**0.0320**	—6.5	89.0	**0.0309**	—7.2	84.9	**0.0297**	—8.0
1	......	**0.0342**	......	96.2	**0.0330**	5.8	92.5	**0.0318**	6.6	88.9	**0.0307**	7.4	84.8	**0.0295**	8.2
2	......	**0.0341**	......	96.2	**0.0329**	5.9	92.4	**0.0317**	6.7	88.8	**0.0306**	7.5	84.7	**0.0294**	8.3
3	......	**0.0340**	......	96.2	**0.0328**	6.0	92.4	**0.0315**	6.8	88.7	**0.0304**	7.6	84.7	**0.0292**	8.4
4	......	**0.0338**	......	96.2	**0.0326**	6.1	92.4	**0.0314**	6.9	88.6	**0.0303**	7.7	84.6	**0.0291**	8.5
5	......	**0.0336**	......	96.2	**0.0325**	6.2	92.3	**0.0312**	7.0	88.5	**0.0301**	7.8	84.5	**0.0289**	8.6
6	......	**0.0334**	......	96.2	**0.0324**	6.3	92.3	**0.0311**	7.1	88.4	**0.0300**	7.9	84.5	**0.0288**	8.7
7	......	**0.0332**	......	96.2	**0.0322**	6.4	92.3	**0.0309**	7.2	88.3	**0.0298**	8.0	84.4	**0.0286**	8.8
8	......	**0.0330**	......	96.2	**0.0320**	6.5	92.2	**0.0308**	7.3	88.2	**0.0297**	8.1	84.3	**0.0285**	8.9
9	......	**0.0328**	......	96.2	**0.0318**	6.6	92.2	**0.0306**	7.4	88.1	**0.0295**	8.2	84.3	**0.0283**	9.0
—6.0	......	**0.0327**	......	96.1	**0.0316**	—6.7	92.2	**0.0304**	—7.5	88.0	**0.0293**	—8.3	84.2	**0.0281**	—9.1
1	......	**0.0326**	......	96.1	**0.0315**	6.9	92.1	**0.0302**	7.7	88.0	**0.0292**	8.5	84.1	**0.0280**	9.3
2	......	**0.0324**	......	96.1	**0.0313**	7.0	92.1	**0.0301**	7.8	88.0	**0.0290**	8.6	84.1	**0.0278**	9.5
3	......	**0.0323**	......	96.1	**0.0312**	7.1	92.1	**0.0299**	7.9	88.0	**0.0289**	8.7	84.0	**0.0277**	9.6
4	......	**0.0321**	......	96.1	**0.0310**	7.2	92.0	**0.0298**	8.0	88.0	**0.0287**	8.8	83.9	**0.0275**	9.7
5	......	**0.0320**	......	96.0	**0.0309**	7.3	92.0	**0.0296**	8.1	88.0	**0.0286**	8.9	83.9	**0.0274**	9.8
6	......	**0.0318**	......	96.0	**0.0307**	7.4	92.0	**0.0295**	8.2	88.0	**0.0284**	9.0	83.8	**0.0272**	9.9
7	......	**0.0317**	......	96.0	**0.0306**	7.5	91.9	**0.0293**	8.3	88.0	**0.0283**	9.1	83.7	**0.0271**	10.0
8	......	**0.0315**	......	96.0	**0.0304**	7.6	91.9	**0.0292**	8.4	88.0	**0.0281**	9.2	83.7	**0.0269**	10.1
9	......	**0.0314**	......	96.0	**0.0303**	7.7	91.9	**0.0290**	8.5	88.0	**0.0279**	9.3	83.6	**0.0268**	10.2

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
−4°.0	82.0	0.0302	−7.7	78.0	0.0290	−8.5	74.0	0.0279	−9.3	71.0	0.0267	−10.2	68.0	0.0256	−11.1
1	81.9	0.0300	7.9	77.9	0.0288	8.7	73.9	0.0277	9.5	70.9	0.0265	10.4	67.9	0.0254	11.3
2	81.8	0.0299	8.0	77.8	0.0287	8.9	73.8	0.0276	9.7	70.8	0.0264	10.6	67.8	0.0252	11.4
3	81.7	0.0297	8.1	77.7	0.0285	9.0	73.7	0.0274	9.8	70.7	0.0262	10.7	67.7	0.0251	11.6
4	81.6	0.0296	8.2	77.6	0.0284	9.1	73.6	0.0273	9.9	70.6	0.6261	10.8	67.6	0.0249	11.7
5	81.5	0.0294	8.3	77.5	0.0282	9.2	73.5	0.0271	10.0	70.5	0.0259	10.9	67.5	0.0248	11.9
6	81.4	0.0293	8.4	77.4	0.0281	9.3	73.4	0.0270	10.1	70.4	0.0258	11.0	67.4	0.0246	12.0
7	81.3	0.0291	8.5	77.3	0.0279	9.4	73.3	0.0268	10.2	70.3	0.0256	11.1	67.3	0.0245	12.1
8	81.2	0.0290	8.6	77.2	0.0278	9.5	73.2	0.0267	10.3	70.2	0.0255	11.2	67.2	0.0243	12.2
9	81.1	0.0288	8.7	77.1	0.0276	9.6	73.1	0.0265	10.4	70.1	0.0253	11.3	67.1	0.0242	12.3
−5.0	81.0	0.0286	−8.8	77.0	0.0274	−9.7	73.0	0.0263	−10.5	70.0	0.0251	−11.5	67.0	0.0240	−12.4
1	80.9	0.0284	9.0	76.9	0.0272	9.9	72.9	0.0261	10.7	69.8	0.0250	11.7	66.8	0.0238	12.5
2	80.8	0.0283	9.2	76.8	0.0271	10.1	72.8	0.0260	10.9	69.6	0.0248	11.9	66.6	0.0236	12.7
3	80.7	0.0281	9.3	76.7	0.0269	10.2	72.7	0.0258	11.1	69.4	0.0247	12.0	66.4	0.0235	12.8
4	80.6	0.0280	9.4	76.6	0.0268	10.3	72.6	0.0257	11.2	69.2	0.0245	12.1	66.2	0.0233	13.0
5	80.5	0.0278	9.5	76.5	0.0267	10.4	72.5	0.0255	11.3	69.0	0.0244	12.2	66.0	0.0232	13.1
6	80.4	0.0277	9.6	76.4	0.0265	10.5	72.4	0.0254	11.4	68.8	0.0242	12.3	65.8	0.0230	13.2
7	80.3	0.0275	9.7	76.3	0.0264	10.6	72.3	0.0252	11.5	68.6	0.0241	12.4	65.6	0.0229	13.3
8	80.2	0.0274	9.8	76.2	0.0262	10.7	72.2	0.0251	11.6	68.4	0.0239	12.5	65.4	0.0227	13.4
9	80.1	0.0272	9.9	76.1	0.0260	10.8	72.1	0.0249	11.7	68.2	0.0238	12.6	65.2	0.0226	13.5
−6.0	80.0	0.0270	−10.0	76.0	0.0258	−10.9	72.0	0.0247	−11.8	68.0	0.0236	−12.7	65.0	0.0224	−13.7
1	79.9	0.0268	10.2	75.9	0.0256	11.1	71.9	0.0246	12.0	67.9	0.0234	12.9	64.9	0.0222	13.9
2	79.8	0.0267	10.3	75.8	0.0255	11.3	71.8	0.0244	12.1	67.8	0.0233	13.0	64.8	0.0221	14.1
3	79.7	0.0265	10.4	75.7	0.0253	11.4	71.7	0.0243	12.2	67.7	0.0231	13.1	64.7	0.0219	14.2
4	79.6	0.0264	10.5	75.6	0.0252	11.5	71.6	0.0241	12.3	67.6	0.0230	13.2	64.6	0.0218	14.3
5	79.5	0.0262	10.6	75.5	0.0250	11.6	71.5	0.0240	12.4	67.5	0.0228	13.3	64.5	0.0216	14.4
6	79.4	0.0261	10.7	75.4	0.0249	11.7	71.4	0.0238	12.5	67.4	0.0227	13.4	64.4	0.0215	14.5
7	79.3	0.0259	10.8	75.3	0.0247	11.8	71.3	0.0237	12.6	67.3	0.0225	13.5	64.3	0.0213	14.6
8	79.2	0.0258	10.9	75.2	0.0246	11.9	71.2	0.0235	12.7	67.2	0.0224	13.6	64.2	0.0212	14.7
9	79.1	0.0256	11.1	75.1	0.0244	12.0	71.1	0.0234	12.8	67.1	0.0222	13.8	64.1	0.0210	14.9

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.0			1°.1			1°.2			1°.3			1°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—4°.0	65.0	**0.0244**	—12.0	61.0	**0.0233**	—12.9	58.0	**0.0221**	—14.0	55.0	**0.0210**	—15.1	52.0	**0.0199**	—16.1
1	64.8	**0.0243**	12.2	60.9	**0.0232**	13.1	57.9	**0.0220**	14.2	54.8	**0.0209**	15.3	51.8	**0.0198**	16.3
2	64.6	**0.0242**	12.4	60.8	**0.0231**	13.2	57.8	**0.0219**	14.4	54.6	**0.0208**	15.4	51.6	**0.0197**	16.5
3	64.4	**0.0241**	12.6	60.7	**0.0230**	13.4	57.7	**0.0218**	14.6	54.4	**0.0207**	15.6	51.4	**0.0196**	16.7
4	64.2	**0.0240**	12.8	60.6	**0.0228**	13.5	57.6	**0.0217**	14.8	54.2	**0.0206**	15.7	51.2	**0.0195**	16.9
5	64.0	**0.0238**	12.9	60.5	**0.0226**	13.7	57.5	**0.0215**	15.0	54.0	**0.0204**	15.9	51.0	**0.0193**	17.1
6	63.8	**0.0236**	13.0	60.4	**0.0224**	13.8	57.4	**0.0213**	15.1	53.8	**0.0202**	16.0	50.8	**0.0191**	17.3
7	63.6	**0.0334**	13.1	60.3	**0.0222**	14.0	57.3	**0.0211**	15.2	53.6	**0.0200**	16.2	50.6	**0.0189**	17.5
8	63.4	**0.0232**	13.2	60.2	**0.0220**	14.1	57.2	**0.0209**	15.3	53.4	**0.0198**	16.3	50.4	**0.0187**	17.6
9	63.2	**0.0230**	13.3	60.1	**0.0218**	14.3	57.1	**0.0207**	15.4	53.2	**0.0196**	16.5	50.2	**0.0185**	17.7
—5.0	63.0	**0.0228**	—13.4	60.0	**0.0217**	—14.4	57.0	**0.0205**	—15.5	53.0	**0.0194**	—16.6	50.0	**0.0183**	—17.8
1	62.9	**0.0227**	13.5	59.8	**0.0216**	14.6	56.8	**0.0204**	15.7	52.8	**0.0192**	16.8	49.8	**0.0182**	17.9
2	62.8	**0.0225**	13.7	59.6	**0.0215**	14.7	56.6	**0.0202**	15.8	52.6	**0.0191**	17.0	49.6	**0.0181**	18.1
3	62.7	**0.0224**	13.8	59.4	**0.0214**	14.9	56.4	**0.0201**	16.0	52.4	**0.0189**	17.2	49.4	**0.0180**	18.3
4	62.6	**0.0222**	13.9	59.2	**0.0213**	15.0	56.2	**0.0199**	16.1	52.2	**0.0188**	17.4	49.2	**0.0178**	18.5
5	62.5	**0.0221**	14.1	59.0	**0.0211**	15.2	56.0	**0.0198**	16.3	52.0	**0.0186**	17.6	49.0	**0.0176**	18.7
6	62.4	**0.0219**	14.3	58.8	**0.0209**	15.3	55.8	**0.0196**	16.5	51.8	**0.0185**	17.8	48.8	**0.0174**	18.9
7	62.3	**0.0218**	14.5	58.6	**0.0207**	15.5	55.6	**0.0195**	16.6	51.6	**0.0183**	17.9	48.6	**0.0172**	19.1
8	62.2	**0.0216**	11.6	58.4	**0.0205**	15.6	55.4	**0.0193**	16.8	51.4	**0.0182**	18.0	48.4	**0.0170**	19.3
9	62.1	**0.0215**	14.7	58.2	**0.0203**	15.8	55.2	**0.0192**	16.9	51.2	**0.0180**	18.1	48.2	**0.0169**	19.4
—6.0	62.0	**0.0213**	—14.8	58.0	**0.0201**	—15.9	55.0	**0.0190**	—17.0	51.0	**0.0179**	—18.2	48.0	**0.0167**	—19.5
1	61.9	**0.0212**	15.0	57.9	**0.0200**	16.1	54.8	**0.0188**	17.2	50.8	**0.0177**	18.4	47.8	**0.0165**	19.6
2	61.8	**0.0210**	15.2	57.8	**0.0198**	16.2	54.6	**0.0187**	17.4	50.6	**0.0176**	18.6	47.6	**0.0164**	19.7
3	61.7	**0.0209**	15.4	57.7	**0.0197**	16.4	54.4	**0.0185**	17.6	50.4	**0.0174**	18.8	47.4	**0.0162**	19.8
4	61.6	**0.0207**	15.6	57.6	**0.0195**	16.5	54.2	**0.0184**	17.8	50.2	**0.0173**	19.0	47.2	**0.0161**	20.0
5	61.5	**0.0206**	15.7	57.5	**0.0194**	16.7	54.0	**0.0183**	18.0	50.0	**0.0171**	19.2	47.0	**0.0159**	20.2
6	61.4	**0.0204**	15.8	57.4	**0.0192**	16.8	53.8	**0.0181**	18.2	49.8	**0.0170**	19.4	46.8	**0.0158**	20.4
7	61.3	**0.0203**	15.9	57.3	**0.0191**	17.0	53.6	**0.0180**	18.3	49.6	**0.0168**	19.6	46.6	**0.0156**	20.6
8	61.2	**0.0201**	16.0	57.2	**0.0189**	17.1	53.4	**0.0178**	18.4	49.4	**0.0167**	19.7	46.4	**0.0155**	20.8
9	61.1	**0.0200**	16.1	57.1	**0.0188**	17.3	53.2	**0.0177**	18.5	49.2	**0.0165**	19.8	46.2	**0.0153**	21.0

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.5			1°.6			1°.7			1°.8			1°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
4°.0	48.8	**0.0187**	—17.3	45.6	**0.0176**	—18.5	42.2	**0.0164**	—19.8	38.9	**0.0153**	—21.2	35.9	**0.0141**	—22.6
1	48.6	**0.0185**	17.5	45.3	**0.0174**	18.6	42.0	**0.0162**	20.0	38.7	**0.0151**	21.4	35.6	**0.0140**	22.9
2	48.4	**0.0183**	17.7	45.1	**0.0172**	18.8	41.8	**0.0161**	20.2	38.5	**0.0149**	21.6	35.4	**0.0138**	23.2
3	48.2	**0.0181**	17.9	44.9	**0.0171**	19.0	41.6	**0.0159**	20.4	38.3	**0.0148**	21.8	35.1	**0.0136**	23.4
4	48.0	**0.0179**	18.1	44.7	**0.0169**	19.2	41.4	**0.0158**	20.6	38.1	**0.0146**	22.0	34.8	**0.0135**	23.6
5	47.8	**0.0178**	18.3	44.5	**0.0168**	19.4	41.2	**0.0156**	20.8	37.9	**0.0145**	22.2	34.6	**0.0133**	23.8
6	47.6	**0.0177**	18.5	44.3	**0.0166**	19.6	41.0	**0.0155**	21.0	37.7	**0.0143**	22.4	34.3	**0.0131**	24.0
7	47.4	**0.0176**	18.7	44.1	**0.0165**	19.8	40.8	**0.0153**	21.2	37.5	**0.0142**	22.6	34.1	**0.0130**	24.2
8	47.2	**0.0175**	18.8	43.9	**0.0163**	20.0	40.6	**0.0151**	21.4	37.3	**0.0140**	22.8	33.8	**0.0128**	24.6
9	47.0	**0.0173**	18.9	43.7	**0.0162**	20.2	40.4	**0.0150**	21.6	37.1	**0.0138**	23.0	33.5	**0.0126**	24.8
—5.0	46.7	**0.0171**	—19.0	43.4	**0.0160**	—20.3	40.1	**0.0148**	—21.7	36.8	**0.0137**	—23.2	33.3	**0.0125**	—24.9
1	46.5	**0.0169**	19.2	43.1	**0.0158**	20.5	39.8	**0.0146**	22.0	36.6	**0.0135**	23.5	33.0	**0.0123**	25.2
2	46.3	**0.0168**	19.4	42.9	**0.0157**	20.7	39.5	**0.0145**	22.2	36.3	**0.0134**	23.8	32.7	**0.0122**	25.4
3	46.1	**0.0166**	19.6	42.7	**0.0155**	20.9	39.3	**0.0143**	22.4	36.1	**0.0132**	24.0	32.5	**0.0120**	25.6
4	45.9	**0.0165**	19.8	42.5	**0.0154**	21.1	39.1	**0.0142**	22.6	35.9	**0.0131**	24.2	32.3	**0.0119**	25.8
5	45.7	**0.0163**	19.9	42.3	**0.0152**	21.3	38.9	**0.0140**	22.8	35.6	**0.0129**	24.4	32.0	**0.0117**	26.0
6	45.5	**0.0162**	20.1	42.1	**0.0151**	21.5	38.7	**0.0139**	23.0	35.4	**0.0128**	24.6	31.7	**0.0116**	26.2
7	45.3	**0.0160**	20.3	41.9	**0.0149**	21.7	38.5	**0.0137**	23.2	35.1	**0.0126**	24.8	31.4	**0.0114**	26.4
8	45.1	**0.0159**	20.5	41.7	**0.0148**	21.9	38.3	**0.0136**	23.4	34.9	**0.0124**	25.0	31.1	**0.0113**	26.6
9	44.9	**0.0157**	20.7	41.5	**0.0146**	22.1	38.1	**0.0134**	23.6	34.7	**0.0123**	25.2	30.9	**0.0111**	26.8
—6.0	44.6	**0.0156**	—20.8	41.2	**0.0144**	—22.3	37.8	**0.0133**	—23.9	34.4	**0.0121**	—25.5	30.7	**0.0110**	—27.1
1	44.4	**0.0154**	21.0	41.0	**0.0142**	22.5	37.4	**0.0131**	24.1	34.2	**0.0120**	25.8	30.5	**0.0108**	27.3
2	44.2	**0.0153**	21.2	40.7	**0.0141**	22.7	37.1	**0.0130**	24.3	33.9	**0.0118**	26.0	30.2	**0.0107**	27.6
3	44.0	**0.0151**	21.4	40.5	**0.0139**	22.9	36.8	**0.0128**	24.5	33.6	**0.0117**	26.2	29.9	**0.0105**	27.8
4	43.8	**0.0150**	21.6	40.3	**0.0138**	23.1	36.5	**0.0127**	24.7	33.3	**0.0115**	26.4	29.6	**0.0104**	28.1
5	43.6	**0.0148**	21.8	40.1	**0.0137**	23.3	36.2	**0.0126**	24.9	33.0	**0.0114**	26.6	29.3	**0.0102**	28.3
6	43.4	**0.0147**	22.0	39.9	**0.0135**	23.5	35.9	**0.0124**	25.1	32.7	**0.0112**	26.8	29.0	**0.0101**	28.6
7	43.2	**0.0145**	22.2	39.7	**0.0134**	23.7	35.6	**0.0122**	25.3	32.4	**0.0111**	27.0	28.7	**0.0099**	28.8
8	43.0	**0.0144**	22.3	39.5	**0.0132**	23.9	35.3	**0.0121**	25.5	32.1	**0.0109**	27.2	28.4	**0.0098**	29.0
9	42.8	**0.0142**	22.4	39.2	**0.0131**	24.0	35.0	**0.0119**	25.7	31.8	**0.0108**	27.4	28.1	**0.0096**	29.2

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS. 0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
−7°.0	......	**0.0312**	......	95.9	**0.0301**	− 7.8	91.8	**0.0289**	− 8.6	88.0	**0.0278**	− 9.4	83.5	**0.0266**	−10.3
1	......	**0.0310**	......	95.9	**0.0300**	7.9	91.8	**0.0288**	8.8	87.9	**0.0276**	9.5	83.4	**0.0264**	10.4
2	......	**0.0309**	......	95.9	**0.0298**	8.0	91.7	**0.0286**	8.9	87.8	**0.0275**	9.6	83.4	**0.0263**	10.5
3	......	**0.0307**	......	95.9	**0.0297**	8.1	91.7	**0.0285**	9.0	87.7	**0.0273**	9.7	83.3	**0.0261**	10.6
4	......	**0.0306**	......	95.9	**0.0295**	8.2	91.6	**0.0283**	9.1	87.6	**0.0272**	9.8	83.2	**0.0260**	10.7
5	......	**0.0304**	......	95.8	**0.0294**	8.3	91.6	**0.0282**	9.2	87.5	**0.0270**	9.9	83.1	**0.0258**	10.8
6	......	**0.0303**	......	95.8	**0.0292**	8.4	91.5	**0.0280**	9.3	87.4	**0.0269**	10.0	83.0	**0.0257**	10.9
7	......	**0.0301**	......	95.8	**0.0291**	8.5	91.5	**0.0279**	9.4	87.3	**0.0267**	10.1	83.0	**0.0255**	11.0
8	......	**0.0300**	......	95.8	**0.0289**	8.6	91.4	**0.0277**	9.5	87.2	**0.0266**	10.2	82.9	**0.0254**	11.2
9	......	**0.0298**	......	95.8	**0.0288**	8.7	91.4	**0.0276**	9.6	87.1	**0.0264**	10.3	82.9	**0.0252**	11.3
−8.0	......	**0.0297**	......	95.7	**0.0286**	− 8.8	91.4	**0.0274**	− 9.7	87.1	**0.0263**	−10.5	82.8	**0.0251**	−11.4
1	......	**0.0296**	......	95.7	**0.0284**	8.9	91.3	**0.0273**	9.9	87.1	**0.0261**	10.6	82.7	**0.0250**	11.6
2	......	**0.0295**	......	95.7	**0.0282**	9.0	91.3	**0.0272**	10.0	87.1	**0.0260**	10.7	82.7	**0.0249**	11.8
3	......	**0.0293**	......	95.6	**0.0280**	9.1	91.3	**0.0270**	10.1	87.1	**0.0258**	10.8	82.6	**0.0247**	11.9
4	......	**0.0292**	......	95.6	**0.0279**	9.2	91.2	**0.0269**	10.2	87.1	**0.0257**	10.9	82.5	**0.0246**	12.0
5	......	**0.0290**	......	95.5	**0.0278**	9.3	91.2	**0.0267**	10.3	87.1	**0.0255**	11.0	82.4	**0.0244**	12.1
6	......	**0.0289**	......	95.4	**0.0277**	9.4	91.2	**0.0266**	10.4	87.1	**0.0254**	11.1	82.3	**0.0243**	12.2
7	......	**0.0287**	......	95.3	**0.0276**	9.5	91.1	**0.0264**	10.5	87.1	**0.0252**	11.2	82.2	**0.0241**	12.3
8	......	**0.0286**	......	95.2	**0.0275**	9.6	91.1	**0.0263**	10.6	87.1	**0.0251**	11.3	82.1	**0.0240**	12.4
9	......	**0.0284**	......	95.1	**0.0274**	9.7	91.1	**0.0261**	10.7	87.1	**0.0250**	11.4	82.0	**0.0238**	12.5
−9.0	......	**0.0283**	......	95.0	**0.0272**	− 9.8	91.0	**0.0260**	−10.8	87.0	**0.0249**	−11.6	82.0	**0.0237**	−12.6
1	......	**0.0281**	......	95.0	**0.0270**	9.9	91.0	**0.0258**	10.9	86.9	**0.0247**	11.7	81.9	**0.0235**	12.7
2	......	**0.0280**	......	95.0	**0.0268**	10.0	91.0	**0.0256**	11.0	86.8	**0.0245**	11.8	81.8	**0.0233**	12.8
3	......	**0.0278**	......	95.0	**0.0267**	10.1	90.9	**0.0255**	11.1	86.7	**0.0244**	11.9	81.7	**0.0232**	12.9
4	......	**0.0277**	......	95.0	**0.0266**	10.2	90.9	**0.0254**	11.2	86.6	**0.0243**	12.0	81.6	**0.0231**	13.0
5	......	**0.0276**	......	95.0	**0.0265**	10.3	90.9	**0.0253**	11.3	86.5	**0.0242**	12.1	81.5	**0.0230**	13.1
6	......	**0.0275**	......	95.0	**0.0264**	10.4	90.8	**0.0252**	11.4	86.4	**0.0241**	12.2	81.4	**0.0229**	13.2
7	......	**0.0274**	......	95.0	**0.0263**	10.5	90.8	**0.0251**	11.5	86.3	**0.0240**	12.3	81.3	**0.0228**	13.3
8	......	**0.0273**	......	95.0	**0.0262**	10.6	90.7	**0.0250**	11.6	86.2	**0.0239**	12.4	81.2	**0.0227**	13.4
9	......	**0.0272**	......	95.0	**0.0261**	10.7	90.7	**0.0249**	11.7	86.1	**0.0238**	12.5	81.1	**0.0226**	13.5

DIFFERENCE OF DRY AND WET BULB THERMOMETERS.

Wet-bulb thermometer, t, Fahrenheit.	0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—7.0	79.0	0.0255	—11.2	75.0	0.0213	—12.1	71.0	0.0232	—13.0	67.0	0.0221	—14.0	64.0	0.0209	—15.1
1	78.9	0.0253	11.3	74.9	0.0211	12.3	70.9	0.0230	13.2	66.9	0.0220	14.2	63.9	0.0207	15.3
2	78.8	0.0252	11.4	74.8	0.0210	12.5	70.8	0.0229	13.3	66.8	0.0218	14.3	63.8	0.0206	15.4
3	78.7	0.0250	11.5	74.7	0.0238	12.6	70.7	0.0227	13.5	66.7	0.0217	14.5	63.7	0.0204	15.6
4	78.6	0.0219	11.6	74.6	0.0237	12.7	70.6	0.0226	13.6	66.6	0.0215	14.6	63.6	0.0203	15.7
5	78.5	0.0217	11.7	74.5	0.0235	12.8	70.5	0.0224	13.8	66.5	0.0214	14.8	63.5	0.0201	15.9
6	78.4	0.0215	11.8	74.4	0.0231	12.9	70.4	0.0223	13.9	66.4	0.0212	14.9	63.4	0.0200	16.0
7	78.3	0.0211	11.9	74.3	0.0232	13.0	70.3	0.0221	14.1	66.3	0.0211	15.1	63.3	0.0198	16.2
8	78.2	0.0212	12.0	74.2	0.0231	13.1	70.2	0.0220	14.2	66.2	0.0209	15.2	63.2	0.0197	16.3
9	78.1	0.0211	12.1	74.1	0.0229	13.2	70.1	0.0218	14.3	66.1	0.0208	15.3	63.1	0.0195	16.5
—8.0	78.0	0.0210	—12.2	74.0	0.0228	—13.4	70.0	0.0217	—14.4	66.0	0.0206	—15.4	63.0	0.0194	—16.6
1	78.0	0.0238	12.4	73.9	0.0226	13.6	69.8	0.0216	14.6	65.8	0.0205	15.5	62.8	0.0193	16.7
2	78.0	0.0236	12.5	73.8	0.0221	13.8	69.6	0.0214	14.8	65.6	0.0203	15.7	62.6	0.0191	16.9
3	78.0	0.0231	12.6	73.7	0.0223	13.9	69.4	0.0213	14.9	65.4	0.0202	15.8	62.4	0.0190	17.1
4	78.0	0.0233	12.7	73.6	0.0222	14.0	69.2	0.0211	15.0	65.2	0.0200	16.0	62.2	0.0188	17.2
5	78.0	0.0232	12.8	73.5	0.0221	14.1	69.0	0.0210	15.1	65.0	0.0199	16.1	62.0	0.0187	17.4
6	78.0	0.0231	12.9	73.4	0.0220	14.2	68.8	0.0208	15.2	64.8	0.0197	16.3	61.8	0.0185	17.5
7	78.0	0.0230	13.0	73.3	0.0219	14.3	68.6	0.0207	15.3	64.6	0.0196	16.4	61.6	0.0184	17.7
8	78.0	0.0229	13.1	73.2	0.0218	14.4	68.4	0.0205	15.4	64.4	0.0194	16.6	61.4	0.0182	17.8
9	78.0	0.0228	13.3	73.1	0.0217	14.5	68.2	0.0204	15.5	64.2	0.0193	16.7	61.2	0.0181	18.0
9.0	78.0	0.0226	—13.5	73.0	0.0215	—14.6	68.0	0.0203	—15.7	64.0	0.0192	—16.8	61.0	0.0180	—18.1
1	77.9	0.0224	13.7	72.9	0.0213	14.8	67.9	0.0201	15.9	63.9	0.0190	17.0	60.8	0.0178	18.3
2	77.8	0.0222	13.8	72.8	0.0211	14.9	67.8	0.0199	16.0	63.8	0.0188	17.2	60.6	0.0176	18.5
3	77.7	0.0221	13.9	72.7	0.0210	15.0	67.7	0.0198	16.1	63.7	0.0187	17.3	60.4	0.0175	18.6
4	77.6	0.0220	14.0	72.6	0.0209	15.1	67.6	0.0197	16.2	63.6	0.0186	17.4	60.2	0.0174	18.7
5	77.5	0.0219	14.1	72.5	0.0208	15.2	67.5	0.0196	16.3	63.5	0.0185	17.5	60.0	0.0173	18.8
6	77.4	0.0218	14.2	72.4	0.0207	15.3	67.4	0.0195	16.4	63.4	0.0184	17.6	59.8	0.0172	18.9
7	77.3	0.0217	14.3	72.3	0.0206	15.4	67.3	0.0194	16.5	63.3	0.0183	17.7	59.6	0.0171	19.0
8	77.2	0.0216	14.4	72.2	0.0205	15.5	67.2	0.0193	16.6	63.2	0.0182	17.8	59.4	0.0170	19.1
9	77.1	0.0215	14.6	72.1	0.0204	15.6	67.1	0.0192	16.8	63.1	0.0181	18.0	59.2	0.0169	19.3

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.0			1°.1			1°.2			1°.3			1°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—7°.0	61.0	**0.0198**	—16.2	57.0	**0.0186**	—17.4	53.0	**0.0175**	—18.6	49.0	**0.0164**	—19.9	46.0	**0.0152**	—21.2
1	60.8	**0.0196**	16.4	56.8	**0.0185**	17.5	52.8	**0.0173**	18.7	48.8	**0.0162**	20.1	45.7	**0.0150**	21.4
2	60.6	**0.0195**	16.6	56.6	**0.0184**	17.7	52.6	**0.0172**	18.9	48.6	**0.0161**	20.3	45.4	**0.0149**	21.6
3	60.4	**0.0193**	16.8	56.4	**0.0183**	17.8	52.4	**0.0170**	19.1	48.4	**0.0159**	20.5	45.1	**0.0147**	21.8
4	60.2	**0.0192**	17.0	56.2	**0.0182**	18.0	52.2	**0.0169**	19.3	48.2	**0.0158**	20.7	44.8	**0.0146**	22.0
5	60.0	**0.0190**	17.2	56.0	**0.0180**	18.1	52.0	**0.0167**	19.5	48.0	**0.0156**	20.9	44.5	**0.0144**	22.2
6	59.8	**0.0189**	17.4	55.8	**0.0179**	18.3	51.8	**0.0166**	19.7	47.8	**0.0155**	21.1	44.2	**0.0143**	22.4
7	59.6	**0.0187**	17.5	55.6	**0.0177**	18.4	51.6	**0.0164**	19.9	47.6	**0.0153**	21.3	43.9	**0.0141**	22.6
8	59.4	**0.0186**	17.6	55.4	**0.0175**	18.6	51.4	**0.0163**	20.1	47.4	**0.0152**	21.4	43.6	**0.0140**	22.8
9	59.2	**0.0184**	17.7	55.2	**0.0173**	18.7	51.2	**0.0161**	20.2	47.2	**0.0150**	21.5	43.3	**0.0138**	23.0
—8.0	59.0	**0.0183**	—17.8	55.0	**0.0172**	—18.9	51.0	**0.0160**	—20.3	47.0	**0.0149**	—21.6	43.0	**0.0137**	—23.1
1	58.8	**0.0181**	17.9	54.8	**0.0171**	19.0	50.8	**0.0158**	20.4	46.8	**0.0148**	21.8	42.8	**0.0136**	23.2
2	58.6	**0.0179**	18.1	54.6	**0.0170**	19.2	50.6	**0.0157**	20.6	46.6	**0.0146**	22.0	42.6	**0.0135**	23.4
3	58.4	**0.0177**	18.2	54.4	**0.0169**	19.3	50.4	**0.0155**	20.8	46.4	**0.0145**	22.2	42.4	**0.0134**	23.6
4	58.2	**0.0175**	18.4	54.2	**0.0168**	19.5	50.2	**0.0154**	20.9	46.2	**0.0143**	22.4	42.2	**0.0132**	23.8
5	58.0	**0.0174**	18.5	54.0	**0.0166**	19.6	50.0	**0.0152**	21.1	46.0	**0.0141**	22.6	42.0	**0.0131**	24.0
6	57.8	**0.0173**	18.7	53.8	**0.0164**	19.8	49.8	**0.0151**	21.3	45.8	**0.0139**	22.8	41.8	**0.0130**	24.2
7	57.6	**0.0172**	18.8	53.6	**0.0162**	20.0	49.6	**0.0149**	21.5	45.6	**0.0138**	23.0	41.6	**0.0129**	24.4
8	57.4	**0.0171**	19.0	53.4	**0.0160**	20.1	49.4	**0.0148**	21.7	45.4	**0.0137**	23.2	41.4	**0.0128**	24.6
9	57.2	**0.0170**	19.1	53.2	**0.0159**	20.3	49.2	**0.0147**	21.9	45.2	**0.0136**	23.3	41.2	**0.0126**	24.8
—9.0	57.0	**0.0169**	—19.3	53.0	**0.0158**	—20.5	49.0	**0.0146**	—22.0	45.0	**0.0135**	—23.4	41.0	**0.0124**	—25.0
1	56.8	**0.0167**	19.5	52.8	**0.0156**	20.6	48.8	**0.0144**	22.2	44.7	**0.0133**	23.6	40.7	**0.0122**	25.2
2	56.6	**0.0165**	19.6	52.6	**0.0154**	20.7	48.6	**0.0142**	22.4	44.4	**0.0132**	23.8	40.4	**0.0120**	25.4
3	56.4	**0.0163**	19.8	52.4	**0.0152**	20.8	48.4	**0.0140**	22.6	44.1	**0.0131**	24.0	40.1	**0.0119**	25.6
4	56.2	**0.0162**	19.9	52.2	**0.0151**	20.9	48.2	**0.0139**	22.8	43.8	**0.0130**	24.2	39.8	**0.0118**	25.8
5	56.0	**0.0161**	20.1	52.0	**0.0150**	21.1	48.0	**0.0138**	23.0	43.5	**0.0128**	24.4	39.5	**0.0117**	26.0
6	55.8	**0.0160**	20.2	51.8	**0.0149**	21.3	47.8	**0.0137**	23.2	43.2	**0.0126**	24.6	39.2	**0.0116**	26.2
7	55.6	**0.0159**	20.4	51.6	**0.0148**	21.5	47.6	**0.0136**	23.4	42.9	**0.0124**	24.8	38.9	**0.0114**	26.4
8	55.4	**0.0158**	20.5	51.4	**0.0147**	21.7	47.4	**0.0135**	23.5	42.6	**0.0123**	25.0	38.6	**0.0112**	26.6
9	55.2	**0.0157**	20.6	51.2	**0.0146**	21.9	47.2	**0.0134**	23.6	42.3	**0.0121**	25.2	38.3	**0.0110**	26.8

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.5			1°.6			1°.7			1°.8			1°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—7.0	42.6	**0.0141**	—22.6	38.9	**0.0129**	—24.2	35.3	**0.0118**	—25.9	31.6	**0.0106**	—27.7	27.8	**0.0095**	—29.5
1	42.2	**0.0140**	22.8	38.5	**0.0128**	24.4	35.0	**0.0116**	26.2	31.3	**0.0105**	27.9	27.4	**0.0093**	29.7
2	41.8	**0.0138**	23.0	38.1	**0.0126**	24.6	34.6	**0.0115**	26.5	30.9	**0.0104**	28.2	27.0	**0.0092**	29.9
3	41.5	**0.0137**	23.2	37.7	**0.0125**	24.8	34.3	**0.0113**	26.7	30.6	**0.0103**	28.4	26.7	**0.0090**	30.1
4	41.2	**0.0135**	23.4	37.4	**0.0123**	25.0	33.9	**0.0112**	26.9	30.2	**0.0101**	28.7	26.4	**0.0089**	30.4
5	40.9	**0.0134**	23.6	37.1	**0.0122**	25.2	33.6	**0.0110**	27.1	29.9	**0.0099**	28.9	26.1	**0.0087**	30.7
6	40.6	**0.0132**	23.8	36.8	**0.0120**	25.4	33.2	**0.0109**	27.3	29.5	**0.0097**	29.2	25.8	**0.0086**	31.0
7	40.3	**0.0131**	24.0	36.5	**0.0119**	25.6	32.9	**0.0107**	27.5	29.2	**0.0095**	29.4	25.5	**0.0084**	31.3
8	40.0	**0.0129**	24.2	36.2	**0.0117**	25.8	32.6	**0.0106**	27.7	28.8	**0.0093**	29.7	25.2	**0.0083**	31.6
9	39.7	**0.0128**	24.4	35.9	**0.0116**	26.0	32.3	**0.0104**	27.9	28.5	**0.0092**	30.0	24.9	**0.0081**	31.9
—8.0	39.3	**0.0126**	—24.7	35.6	**0.0114**	—26.3	31.9	**0.0103**	—28.2	28.2	**0.0091**	—30.2	24.5	**0.0080**	—32.2
1	39.0	**0.0125**	24.9	35.3	**0.0112**	26.6	31.6	**0.0102**	28.5	28.0	**0.0090**	30.4	24.1	**0.0079**	32.4
2	38.8	**0.0123**	25.1	35.0	**0.0110**	26.8	31.4	**0.0100**	28.8	27.7	**0.0088**	30.7	23.8	**0.0077**	32.6
3	38.6	**0.0122**	25.3	34.8	**0.0108**	27.0	31.2	**0.0099**	29.0	27.4	**0.0087**	30.9	23.5	**0.0075**	32.9
4	38.4	**0.0120**	25.5	34.6	**0.0107**	27.2	31.0	**0.0097**	29.2	27.1	**0.0085**	31.2	23.2	**0.0073**	33.2
5	38.2	**0.0119**	25.7	34.4	**0.0106**	27.4	30.8	**0.0096**	29.4	26.8	**0.0084**	31.4	22.9	**0.0072**	33.5
6	38.0	**0.0117**	25.9	34.2	**0.0105**	27.6	30.6	**0.0094**	29.6	26.5	**0.0083**	31.7	22.6	**0.0070**	33.8
7	37.8	**0.0116**	26.1	34.0	**0.0104**	27.8	30.4	**0.0093**	29.8	26.2	**0.0082**	31.9	22.3	**0.0069**	34.1
8	37.6	**0.0114**	26.3	33.8	**0.0103**	28.0	30.0	**0.0091**	30.0	25.9	**0.0081**	32.1	22.0	**0.0068**	34.4
9	37.4	**0.0113**	26.5	33.6	**0.0102**	28.2	29.6	**0.0090**	30.2	25.6	**0.0080**	32.3	21.7	**0.0067**	34.7
—9.0	37.2	**0.0112**	—26.7	33.3	**0.0101**	—28.5	29.3	**0.0089**	—30.5	25.3	**0.0078**	—32.6	21.3	**0.0066**	—34.9
1	36.9	**0.0110**	26.9	33.0	**0.0099**	28.7	29.0	**0.0087**	30.7	25.0	**0.0076**	32.9	21.0	**0.0064**	35.2
2	36.6	**0.0108**	27.2	32.6	**0.0097**	29.0	28.7	**0.0086**	30.9	24.7	**0.0074**	33.2	20.8	**0.0062**	35.4
3	36.3	**0.0106**	27.4	32.3	**0.0095**	29.2	28.4	**0.0084**	31.2	24.4	**0.0072**	33.5	20.6	**0.0061**	35.6
4	36.0	**0.0105**	27.6	32.0	**0.0094**	29.4	28.0	**0.0083**	31.4	24.0	**0.0071**	33.7	20.4	**0.0060**	35.8
5	35.7	**0.0104**	27.8	31.7	**0.0093**	29.6	27.6	**0.0081**	31.6	23.7	**0.0070**	33.9	20.2	**0.0059**	36.0
6	35.4	**0.0103**	28.0	31.4	**0.0092**	29.8	27.2	**0.0080**	31.8	23.4	**0.0069**	34.1	20.0	**0.0058**	36.3
7	35.1	**0.0102**	28.2	31.1	**0.0091**	30.0	26.9	**0.0078**	32.0	23.0	**0.0068**	34.3	19.8	**0.0057**	36.6
8	34.7	**0.0101**	28.4	30.8	**0.0090**	30.2	26.5	**0.0077**	32.2	22.7	**0.0067**	34.5	19.6	**0.0055**	36.8
9	34.2	**0.0099**	28.7	30.4	**0.0088**	30.5	26.3	**0.0076**	32.5	22.3	**0.0065**	34.7	19.3	**0.0053**	37.0

	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
0°.0	......	**0.0270**	......	95.0	**0.0259**	—10.9	90.6	**0.0247**	—11.8	86.0	**0.0236**	—12.7	81.0	**0.0224**	—13.7
1	......	**0.0268**	......	95.0	**0.0257**	11.0	90.6	**0.0245**	12.0	86.0	**0.0234**	12.9	80.9	**0.0222**	13.9
2	......	**0.0266**	......	95.0	**0.0255**	11.1	90.5	**0.0243**	12.1	86.0	**0.0232**	13.0	80.8	**0.0220**	14.1
3	......	**0.0265**	......	95.0	**0.0254**	11.2	90.5	**0.0242**	12.2	86.0	**0.0231**	13.1	80.7	**0.0219**	14.2
4	......	**0.0264**	......	95.0	**0.0253**	11.3	90.4	**0.0241**	12.3	86.0	**0.0230**	13.2	80.6	**0.0218**	14.3
5	......	**0.0263**	......	95.0	**0.0252**	11.4	90.4	**0.0240**	12.4	86.0	**0.0229**	13.3	80.5	**0.0217**	14.4
6	......	**0.0262**	......	95.0	**0.0251**	11.5	90.3	**0.0239**	12.5	86.0	**0.0228**	13.4	80.4	**0.0216**	14.5
7	......	**0.0261**	......	95.0	**0.0250**	11.6	90.3	**0.0238**	12.6	86.0	**0.0227**	13.5	80.3	**0.0215**	14.6
8	......	**0.0260**	......	95.0	**0.0249**	11.7	90.2	**0.0237**	12.7	86.0	**0.0226**	13.6	80.2	**0.0214**	14.7
9	......	**0.0259**	......	95.0	**0.0248**	11.8	90.2	**0.0236**	12.8	86.0	**0.0225**	13.7	80.1	**0.0213**	14.8
1.0	......	**0.0257**	......	95.0	**0.0246**	—11.9	90.2	**0.0234**	—12.9	86.0	**0.0223**	—13.8	80.0	**0.0211**	—15.0
1	......	**0.0255**	......	95.0	**0.0244**	12.0	90.1	**0.0232**	13.1	86.0	**0.0221**	13.9	80.0	**0.0209**	15.2
2	......	**0.0253**	......	95.0	**0.0242**	12.1	90.1	**0.0230**	13.2	86.0	**0.0219**	14.0	80.0	**0.0208**	15.3
3	......	**0.0252**	......	95.0	**0.0241**	12.2	90.0	**0.0229**	13.3	86.0	**0.0218**	14.2	80.0	**0.0207**	15.4
4	......	**0.0251**	......	95.0	**0.0240**	12.3	90.0	**0.0228**	13.4	86.0	**0.0217**	14.3	80.0	**0.0206**	15.5
5	......	**0.0250**	......	95.0	**0.0239**	12.4	89.9	**0.0227**	13.5	86.0	**0.0216**	14.4	80.0	**0.0205**	15.6
6	......	**0.0249**	......	95.0	**0.0238**	12.5	89.9	**0.0226**	13.6	86.0	**0.0215**	14.5	80.0	**0.0204**	15.7
7	......	**0.0248**	......	95.0	**0.0237**	12.6	89.8	**0.0225**	13.7	86.0	**0.0214**	14.6	80.0	**0.0203**	15.8
8	......	**0.0247**	......	95.0	**0.0236**	12.7	89 8	**0.0224**	13.8	86.0	**0.0213**	14.7	80.0	**0.0202**	15.9
9	......	**0.0246**	......	95.0	**0.0235**	12.8	89.7	**0.0223**	13.9	86.0	**0.0212**	14.8	80.0	**0.0201**	16.0
2.0	......	**0.0244**	......	95.0	**0.0233**	—12.9	89.7	**0.0221**	—14.0	85.0	**0.0210**	—15.0	80.0	**0.0199**	—16.1
1	......	**0.0242**	......	95.0	**0.0231**	13.0	89.7	**0.0219**	14.1	85.0	**0.0208**	15.2	79.9	**0.0197**	16.3
2	......	**0.0240**	......	95.0	**0.0230**	13.1	89.6	**0.0218**	14.2	85.0	**0.0207**	15.3	79.8	**0.0196**	16.4
3	......	**0.0239**	......	95.0	**0.0229**	13.2	89.6	**0.0217**	14.3	85.0	**0.0206**	15.4	79.7	**0.0195**	16.5
4	......	**0.0238**	......	95.0	**0.0228**	13.3	89.5	**0.0216**	14.4	85.0	**0.0205**	15.5	79.6	**0.0194**	16.6
5	......	**0.0237**	......	95.0	**0.0227**	13.4	89.5	**0.0215**	14.5	85.0	**0.0204**	15.6	79.5	**0.0193**	16.7
6	......	**0.0236**	......	95.0	**0.0226**	13.5	89.4	**0.0214**	14.6	85.0	**0.0203**	15.7	79.4	**0.0192**	16.8
7	......	**0.0235**	......	95.0	**0.0225**	13.6	89.4	**0.0213**	14.7	85.0	**0.0202**	15.8	79.3	**0.0191**	16.9
8	......	**0.0234**	......	95.0	**0.0224**	13.7	89.3	**0.0212**	14.8	85.0	**0.0201**	15.9	79.2	**0.0190**	17.0
9	......	**0.0233**	......	95.0	**0.0223**	13.8	89.3	**0.0211**	14.9	85.0	**0.0200**	16.0	79.1	**0.0189**	17.1

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS. 0°.5 Relative humidity in hundredths.	0°.5 Force of vapor in English inches.	0°.5 Temperature of the dew-point.	0°.6 Relative humidity in hundredths.	0°.6 Force of vapor in English inches.	0°.6 Temperature of the dew-point.	0°.7 Relative humidity in hundredths.	0°.7 Force of vapor in English inches.	0°.7 Temperature of the dew-point.	0°.8 Relative humidity in hundredths.	0°.8 Force of vapor in English inches.	0°.8 Temperature of the dew-point.	0°.9 Relative humidity in hundredths.	0°.9 Force of vapor in English inches.	0°.9 Temperature of the dew-point.
—10°.0	77.0	**0.0213**	—14.8	72.0	**0.0202**	—15.8	67.0	**0.0190**	—17.0	63.0	**0.0179**	—18.2	59.0	**0.0167**	—19.5
1	76.9	**0.0211**	15.0	71.9	**0.0200**	16.0	66.9	**0.0188**	17.2	62.8	**0.0177**	18.4	58.8	**0.0165**	19.6
2	76.8	**0.0209**	15.2	71.8	**0.0198**	16.2	66.8	**0.0186**	17.4	62.6	**0.0175**	18.6	58.6	**0.0163**	19.8
3	76.7	**0.0208**	15.3	71.7	**0.0197**	16.3	66.7	**0.0185**	17.5	62.4	**0.0174**	18.7	58.4	**0.0162**	19.9
4	76.6	**0.0207**	15.4	71.6	**0.0196**	16.4	66.6	**0.0184**	17.6	62.2	**0.0173**	18.8	58.2	**0.0161**	20.1
5	76.5	**0.0206**	15.5	71.5	**0.0195**	16.5	66.5	**0.0183**	17.7	62.0	**0.0172**	18.9	58.0	**0.0160**	20.2
6	76.4	**0.0205**	15.6	71.4	**0.0194**	16.6	66.4	**0.0182**	17.8	61.8	**0.0171**	19.0	57.8	**0.0159**	20.4
7	76.3	**0.0204**	15.7	71.3	**0.0193**	16.7	66.3	**0.0181**	17.9	61.6	**0.0170**	19.1	57.6	**0.0158**	20.5
8	76.2	**0.0203**	15.8	71.2	**0.0192**	16.8	66.2	**0.0180**	18.0	61.4	**0.0169**	19.2	57.4	**0.0157**	20.7
9	76.1	**0.0202**	15.9	71.1	**0.0191**	16.9	66.1	**0.0179**	18.2	61.2	**0.0168**	19.4	57.2	**0.0156**	20.8
—11.0	76.0	**0.0200**	—16.0	71.0	**0.0189**	—17.1	66.0	**0.0177**	—18.4	61.0	**0.0166**	—19.6	57.0	**0.0154**	—21.0
1	75.9	**0.0198**	16.2	70.9	**0.0187**	17.3	65.9	**0.0175**	18.6	60.9	**0.0164**	19.8	56.8	**0.0152**	21.2
2	75.8	**0.0197**	16.3	70.8	**0.0185**	17.5	65.8	**0.0174**	18.8	60.8	**0.0162**	19.9	56.6	**0.0151**	21.3
3	75.7	**0.0196**	16.4	70.7	**0.0184**	17.6	65.7	**0.0173**	18.9	60.7	**0.0161**	20.1	56.4	**0.0150**	21.5
4	75.6	**0.0195**	16.5	70.6	**0.0183**	17.7	65.6	**0.0172**	19.0	60.6	**0.0160**	20.2	56.2	**0.0149**	21.6
5	75.5	**0.0194**	16.6	70.5	**0.0182**	17.8	65.5	**0.0171**	19.1	60.5	**0.0159**	20.4	56.0	**0.0148**	21.8
6	75.4	**0.0193**	16.7	70.4	**0.0181**	17.9	65.4	**0.0170**	19.2	60.4	**0.0158**	20.5	55.8	**0.0147**	21.9
7	75.3	**0.0192**	16.8	70.3	**0.0180**	18.0	65.3	**0.0169**	19.3	60.3	**0.0157**	20.7	55.6	**0.0146**	22.1
8	75.2	**0.0191**	16.9	70.2	**0.0179**	18.1	65.2	**0.0168**	19.4	60.2	**0.0156**	20.8	55.4	**0.0145**	22.2
9	75.1	**0.0190**	17.0	70.1	**0.0178**	18.3	65.1	**0.0167**	19.6	60.1	**0.0155**	21.0	55.2	**0.0144**	22.4
—12.0	75.0	**0.0188**	—17.2	70.0	**0.0176**	—18.5	65.0	**0.0165**	—19.8	60.0	**0.0153**	—21.1	55.0	**0.0142**	—22.5
1	74.9	**0.0186**	17.4	69.8	**0.0174**	18.7	64.8	**0.0163**	20.0	59.8	**0.0151**	21.2	54.8	**0.0140**	22.7
2	74.8	**0.0185**	17.5	69.6	**0.0173**	18.9	64.6	**0.0162**	20.1	59.6	**0.0150**	21.4	54.6	**0.0139**	22.8
3	74.7	**0.0184**	17.6	69.4	**0.0172**	19.0	64.4	**0.0161**	20.2	59.4	**0.0149**	21.5	54.4	**0.0138**	23.0
4	74.6	**0.0183**	17.7	69.2	**0.0171**	19.1	64.2	**0.0160**	20.3	59.2	**0.0148**	21.7	54.2	**0.0137**	23.1
5	74.5	**0.0182**	17.8	69.0	**0.0170**	19.2	64.0	**0.0159**	20.4	59.0	**0.0147**	21.8	54.0	**0.0136**	23.3
6	74.4	**0.0181**	17.9	68.8	**0.0169**	19.3	63.8	**0.0158**	20.5	58.8	**0.0146**	21.9	53.8	**0.0135**	23.4
7	74.3	**0.0180**	18.0	68.6	**0.0168**	19.4	63.6	**0.0157**	20.6	58.6	**0.0145**	22.1	53.6	**0.0134**	23.6
8	74.2	**0.0179**	18.1	68.4	**0.0167**	19.5	63.4	**0.0156**	20.7	58.4	**0.0144**	22.2	53.4	**0.0133**	23.7
9	74.1	**0.0178**	18.3	68.2	**0.0166**	19.7	63.2	**0.0155**	20.9	58.2	**0.0143**	22.4	53.2	**0.0132**	23.9

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS. 1°.0			1°.1			1°.2			1°.3			1°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—10°.0	55.0	**0.0156**	—20.8	51.0	**0.0145**	—22.1	47.0	**0.0133**	—23.7	42.0	**0.0122**	—25.3	38.0	**0.0111**	—26.9
1	54.8	**0.0155**	21.0	50.8	**0.0143**	22.3	46.8	**0.0131**	23.9	41.8	**0.0120**	25.5	37.8	**0.0109**	27.1
2	54.6	**0.0154**	21.2	50.6	**0.0141**	22.5	46.6	**0.0129**	24.1	41.6	**0.0118**	25.7	37.6	**0.0107**	27.3
3	54.4	**0.0152**	21.4	50.4	**0.0140**	22.7	46.4	**0.0127**	24.3	41.4	**0.0116**	25.9	37.4	**0.0105**	27.5
4	54.2	**0.0150**	21.5	50.2	**0.0139**	22.9	46.2	**0.0126**	24.5	41.2	**0.0115**	26.1	37.2	**0.0104**	27.7
5	54.0	**0.0149**	21.6	50.0	**0.0138**	23.1	46.0	**0.0125**	24.7	41.0	**0.0114**	26.3	37.0	**0.0103**	27.9
6	53.8	**0.0148**	21.7	49.8	**0.0137**	23.3	45.8	**0.0124**	24.9	40.8	**0.0113**	26.5	36.8	**0.0102**	28.1
7	53.6	**0.0147**	21.8	49.6	**0.0136**	23.5	45.6	**0.0123**	25.1	40.6	**0.0112**	26.7	36.6	**0.0101**	28.3
8	53.4	**0.0146**	22.0	49.4	**0.0135**	23.6	45.4	**0.0122**	25.3	40.4	**0.0111**	26.9	36.4	**0.0100**	28.5
9	53.2	**0.0145**	22.2	49.2	**0.0134**	23.7	45.2	**0.0121**	25.4	40.2	**0.0110**	27.1	36.2	**0.0099**	28.7
—11.0	53.0	**0.0143**	—22.4	49.0	**0.0132**	—23.8	45.0	**0.0120**	—25.5	40.0	**0.0109**	—27.2	36.0	**0.0098**	—29.0
1	52.8	**0.0141**	22.5	48.7	**0.0130**	24.0	44.7	**0.0118**	25.7	39.7	**0.0107**	27.4	35.7	**0.0096**	29.2
2	52.6	**0.0139**	22.7	48.4	**0.0128**	24.2	44.4	**0.0116**	25.9	39.4	**0.0105**	27.6	35.4	**0.0094**	29.5
3	52.4	**0.0137**	22.9	48.1	**0.0126**	24.4	44.1	**0.0114**	26.1	39.1	**0.0103**	27.8	35.1	**0.0092**	29.7
4	52.2	**0.0136**	23.0	47.8	**0.0125**	24.6	43.8	**0.0113**	26.3	38.8	**0.0102**	28.0	31.8	**0.0091**	29.6
5	52.0	**0.0135**	23.2	47.5	**0.0124**	24.8	43.5	**0.0112**	26.5	38.5	**0.0101**	28.2	34.5	**0.0090**	30.2
6	51.8	**0.0134**	23.3	47.2	**0.0123**	25.0	43.2	**0.0111**	26.7	38.2	**0.0100**	28.4	34.2	**0.0089**	30.4
7	51.6	**0.0133**	23.5	46.9	**0.0122**	25.2	42.9	**0.0110**	26.9	37.9	**0.0099**	28.6	33.9	**0.0988**	30.6
8	51.4	**0.0132**	23.7	46.6	**0.0121**	25.4	42.6	**0.0109**	27.1	37.6	**0.0098**	28.8	33.6	**0.0087**	30.8
9	51.2	**0.0131**	23.9	46.3	**0.0120**	25.6	42.3	**0.0108**	27.3	37.3	**0.0097**	29.0	33.3	**0.0086**	31.1
—12.0	51.0	**0.0130**	—24.1	46.0	**0.0119**	—25.7	42.0	**0.0107**	—27.4	37.0	**0.0096**	—29.3	33.0	**0.0085**	—31.3
1	50.7	**0.0128**	24.2	45.8	**0.0117**	25.9	41.7	**0.0106**	27.6	36.7	**0.0095**	29.5	32.7	**0.0084**	31.5
2	50.4	**0.0127**	24.3	45.6	**0.0116**	26.1	41.4	**0.0105**	27.8	36.4	**0.0094**	29.7	32.4	**0.0083**	31.7
3	50.1	**0.0126**	24.5	45.4	**0.0115**	26.3	41.1	**0.0104**	28.0	36.1	**0.0093**	29.9	32.1	**0.0082**	31.9
4	49.8	**0.0125**	24.7	45.2	**0.0114**	26.5	40.8	**0.0103**	28.2	35.8	**0.0092**	30.1	31.8	**0.0081**	32.1
5	49.5	**0.0124**	24.9	45.0	**0.0113**	26.7	40.5	**0.0102**	28.4	35.5	**0.0091**	30.3	31.5	**0.0080**	32.3
6	49.2	**0.0123**	25.1	44.8	**0.0112**	26.9	40.2	**0.0101**	28.6	35.2	**0.0090**	30.5	31.2	**0.0079**	32.5
7	48.9	**0.0122**	25.3	44.6	**0.0111**	27.1	39.9	**0.0100**	28.8	34.9	**0.0089**	30.7	30.9	**0.0078**	32.7
8	48.6	**0.0121**	25.5	44.4	**0.0110**	27.3	39.6	**0.0099**	29.0	34.6	**0.0088**	30.9	30.6	**0.0076**	32.9
9	48.3	**0.0120**	25.7	44.2	**0.0109**	27.4	39.3	**0.0098**	29.2	34.3	**0.0087**	31.1	30.3	**0.0075**	33.1

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS. 1°.5			1°.6			1°.7			1°.8			1°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—10°.0	34.0	**0.0099**	—28.8	30.0	**0.0088**	—30.7	26.0	**0.0076**	—32.8	22.0	**0.0065**	—35.0	18.0	**0.0053**	—37.4
1	33.8	**0.0097**	29.1	29.8	**0.0086**	31.0	25.7	**0.0074**	33.0	21.7	**0.0063**	35.2	17.7	**0.0051**	37.7
2	33.6	**0.0095**	29.3	29.6	**0.0084**	31.2	25.4	**0.0072**	33.3	21.4	**0.0061**	35.4	17.4	**0.0049**	38.0
3	33.4	**0.0094**	29.5	29.4	**0.0082**	31.4	25.1	**0.0070**	33.5	21.1	**0.0059**	35.6	17.1	**0.0047**	38.3
4	33.2	**0.0093**	29.7	29.2	**0.0081**	31.6	24.8	**0.0069**	33.8	20.8	**0.0058**	35.9	16.8	**0.0046**	38.6
5	33.0	**0.0092**	29.9	29.0	**0.0080**	31.8	24.5	**0.0068**	34.0	20.5	**0.0057**	36.2	16.5	**0.0045**	38.9
6	32.8	**0.0091**	30.1	28.8	**0.0079**	32.0	24.2	**0.0067**	34.3	20.2	**0.0056**	36.5	16.2	**0.0044**	39.2
7	32.6	**0.0090**	30.3	28.6	**0.0078**	32.3	23.9	**0.0066**	34.5	19.9	**0.0055**	36.8	15.9	**0.0043**	39.5
8	32.4	**0.0089**	30.5	28.4	**0.0077**	32.5	23.6	**0.0065**	34.8	19.6	**0.0054**	37.1	15.6	**0.0042**	39.8
9	32.2	**0.0086**	30.7	28.2	**0.0076**	32.8	23.3	**0.0064**	35.0	19.3	**0.0053**	37.4	15.3	**0.0041**	40.1
—11.0	32.0	**0.0085**	—31.0	28.0	**0.0075**	—33.0	23.0	**0.0063**	—35.3	19.0	**0.0052**	—37.7	15.0	**0.0040**	—40.4
1	31.7	**0.0084**	31.2	27.7	**0.0073**	33.2	22.7	**0.0061**	35.5	18.6	**0.0050**	38.0	14.6	**0.0038**	40.8
2	31.4	**0.0082**	31.5	27.4	**0.0071**	33.5	22.4	**0.0059**	35.8	18.2	**0.0048**	38.3	14.2	**0.0036**	41.2
3	31.1	**0.0080**	31.7	27.1	**0.0070**	33.7	22.1	**0.0058**	36.1	17.8	**0.0046**	38.6	13.8	**0.0034**	41.5
4	30.8	**0.0079**	31.9	26.8	**0.0069**	34.0	21.8	**0.0057**	36.4	17.4	**0.0045**	38.9	13.4	**0.0033**	41.8
5	30.5	**0.0078**	32.2	26.5	**0.0068**	34.2	21.5	**0.0056**	36.7	17.0	**0.0044**	39.2	13.0	**0.0032**	42.1
6	30.2	**0.0077**	32.5	26.2	**0.0067**	34.5	21.2	**0.0055**	37.0	16.6	**0.0043**	39.5	12.6	**0.0031**	42.4
7	29.9	**0.0076**	32.7	25.9	**0.0066**	34.7	20.9	**0.0054**	37.3	16.2	**0.0042**	39.8	12.2	**0.0030**	42.7
8	29.6	**0.0075**	32.9	25.6	**0.0065**	35.0	20.6	**0.0053**	37.6	15.8	**0.0041**	40.1	11.8	**0.0029**	43.0
9	29.3	**0.0074**	33.2	25.3	**0.0064**	35.3	20.3	**0.0052**	37.9	15.4	**0.0040**	40.4	11.4	**0.0028**	43.3
—12.0	29.0	**0.0073**	—33.4	25.0	**0.0062**	—35.7	20.0	**0.0050**	—38.1	15.0	**0.0039**	—40.7	11.0	**0.0027**	—43.7
1	28.6	**0.0072**	33.6	24.6	**0.0061**	35.9	19.6	**0.0048**	38.3	14.6	**0.0037**	41.0	......	....	......
2	28.2	**0.0071**	33.8	24.2	**0.0060**	36.2	19.2	**0.0047**	38.6	14.2	**0.0036**	41.2	......	....	......
3	27.8	**0.0070**	34.0	23.8	**0.0059**	36.4	18.8	**0.0046**	38.8	13.8	**0.0035**	41.5	......	....	......
4	27.4	**0.0069**	34.2	23.4	**0.0058**	36.6	18.4	**0.0045**	39.1	13.4	**0.0034**	41.7	......	....	......
5	27.0	**0.0068**	34.4	23.0	**0.0057**	36.8	18.0	**0.0044**	39.3	13.0	**0.0033**	41.0	......	....	......
6	26.6	**0.0067**	34.6	22.6	**0.0056**	37.0	17.6	**0.0043**	39.6	12.6	**0.0032**	42.3	......	....	......
7	26.2	**0.0066**	34.8	22.2	**0.0055**	37.2	17.2	**0.0042**	39.8	12.2	**0.0031**	42.6	......	....	......
8	25.8	**0.0065**	35.0	21.8	**0.0054**	37.4	16.8	**0.0041**	40.1	11.8	**0.0030**	42.9	......	....	......
9	25.4	**0.0063**	35.3	21.4	**0.0052**	37.7	16.4	**0.0040**	40.4	11.4	**0.0029**	43.2	......	....	......

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—13°.0	......	**0.0232**	......	95.0	**0.0221**	—14.0	89.3	**0.0209**	—15.1	85.0	**0.0198**	—16.2	79.0	**0.0187**	—17.3
1	......	**0.0230**	......	95.0	**0.0220**	14.1	89.3	**0.0208**	15.3	84.9	**0.0197**	16.3	78.9	**0.0186**	17.5
2	......	**0.0229**	......	95.0	**0.0219**	14.2	89.2	**0.0207**	15.4	84.8	**0.0196**	16.4	78.8	**0.0185**	17.6
3	......	**0.0228**	......	95.0	**0.0218**	14.3	89.2	**0.0206**	15.5	84.7	**0.0195**	16.5	78.7	**0.0184**	17.7
4	......	**0.0227**	......	95.0	**0.0217**	14.4	89.2	**0.0205**	15.6	84.6	**0.0194**	16.6	78.6	**0.0183**	17.8
5	......	**0.0226**	......	95.0	**0.0216**	14.5	89.1	**0.0204**	15.7	84.5	**0.0193**	16.7	78.5	**0.0182**	17.9
6	......	**0.0225**	......	95.0	**0.0215**	14.6	89.1	**0.0203**	15.8	84.4	**0.0192**	16.8	78.4	**0.0181**	18.0
7	......	**0.0224**	......	95.0	**0.0214**	14.7	89.1	**0.0202**	15.9	84.3	**0.0191**	16.9	78.3	**0.0180**	18.1
8	......	**0.0223**	......	95.0	**0.0213**	14.8	89.0	**0.0201**	16.0	84.2	**0.0190**	17.0	78.2	**0.0179**	18.2
9	......	**0.0222**	......	95.0	**0.0212**	14.9	89.0	**0.0200**	16.1	84.1	**0.0189**	17.1	78.1	**0.0178**	18.3
—14.0	......	**0.0221**	......	95.0	**0.0210**	—15.0	89.0	**0.0198**	—16.2	84.0	**0.0187**	—17.3	78.0	**0.0176**	—18.5
1	......	**0.0220**	......	94.9	**0.0209**	15.1	88.9	**0.0197**	16.3	83.9	**0.0186**	17.4	77.9	**0.0175**	18.6
2	......	**0.0219**	......	94.8	**0.0208**	15.2	88.8	**0.0196**	16.4	83.8	**0.0185**	17.5	77.8	**0.0174**	18.7
3	......	**0.0218**	......	94.7	**0.0207**	15.3	88.7	**0.0195**	16.5	83.7	**0.0184**	17.6	77.7	**0.0173**	18.8
4	......	**0.0217**	......	94.6	**0.0206**	15.4	88.6	**0.0194**	16.6	83.6	**0.0183**	17.7	77.6	**0.0172**	18.9
5	......	**0.0216**	......	94.5	**0.0205**	15.5	88.5	**0.0193**	16.7	83.5	**0.0182**	17.8	77.5	**0.0171**	19.0
6	......	**0.0215**	......	94.4	**0.0204**	15.6	88.4	**0.0192**	16.8	83.4	**0.0181**	17.9	77.4	**0.0170**	19.1
7	......	**0.0214**	......	94.3	**0.0203**	15.7	88.3	**0.0191**	16.9	83.3	**0.0180**	18.0	77.3	**0.0169**	19.2
8	......	**0.0213**	......	94.2	**0.0202**	15.8	88.2	**0.0190**	17.0	83.2	**0.0179**	18.1	77.2	**0.0168**	19.3
9	......	**0.0212**	......	94.1	**0.0201**	15.9	88.1	**0.0189**	17.1	83.1	**0.0178**	18.2	77.1	**0.0167**	19.4
—15.0	......	**0.0211**	......	94.0	**0.0200**	—16.0	88.0	**0.0188**	—17.2	83.0	**0.0177**	—18.4	77.0	**0.0166**	—19.6
1	......	**0.0210**	......	94.0	**0.0199**	16.1	88.0	**0.0187**	17.3	82.9	**0.0176**	18.5	76.9	**0.0165**	19.7
2	......	**0.0209**	......	94.0	**0.0198**	16.2	88.0	**0.0186**	17.4	82.8	**0.0175**	18.6	76.8	**0.0164**	19.8
3	......	**0.0208**	......	94.0	**0.0197**	16.3	88.0	**0.0185**	17.5	82.7	**0.0174**	18.7	76.7	**0.0163**	19.9
4	......	**0.0207**	......	94.0	**0.0196**	16.4	88.0	**0.0184**	17.6	82.6	**0.0173**	18.8	76.6	**0.0162**	20.0
5	......	**0.0206**	......	94.0	**0.0195**	16.5	88.0	**0.0183**	17.7	82.5	**0.0172**	18.9	76.5	**0.0161**	20.1
6	......	**0.0205**	......	94.0	**0.0194**	16.6	88.0	**0.0182**	17.8	82.4	**0.0171**	19.0	76.4	**0.0160**	20.2
7	......	**0.0204**	......	94.0	**0.0193**	16.7	88.0	**0.0181**	17.9	82.3	**0.0170**	19.1	76.3	**0.0159**	20.3
8	......	**0.0203**	......	94.0	**0.0192**	16.8	88.0	**0.0180**	18.0	82.2	**0.0169**	19.2	76.2	**0.0158**	20.5
9	......	**0.0202**	......	94.0	**0.0190**	17.0	88.0	**0.0179**	18.1	82.1	**0.0168**	19.3	76.1	**0.0157**	20.7

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—13°.0	74.0	**0.0176**	—18.5	68.0	**0.0164**	—19.9	63.0	**0.0153**	—21.1	58.0	**0.0141**	—22.6	53.0	**0.0130**	—24.1
1	73.9	**0.0175**	18.7	67.9	**0.0163**	20.1	62.9	**0.0152**	21.3	57.8	**0.0140**	22.8	52.8	**0.0129**	24.3
2	73.8	**0.0174**	18.9	67.8	**0.0162**	20.3	62.8	**0.0151**	21.5	57.6	**0.0139**	22.9	52.6	**0.0128**	24.4
3	73.7	**0.0173**	19.0	67.7	**0.0161**	20.4	62.7	**0.0150**	21.6	57.4	**0.0138**	23.1	52.4	**0.0127**	24.6
4	73.6	**0.0172**	19.1	67.6	**0.0160**	20.5	62.6	**0.0149**	21.7	57.2	**0.0137**	23.2	52.2	**0.0126**	24.7
5	73.5	**0.0171**	19.2	67.5	**0.0159**	20.6	62.5	**0.0148**	21.8	57.0	**0.0136**	23.4	52.0	**0.0125**	24.9
6	73.4	**0.0170**	19.3	67.4	**0.0158**	20.7	62.4	**0.0147**	21.9	56.8	**0.0135**	23.5	51.8	**0.0124**	25.0
7	73.3	**0.0169**	19.4	67.3	**0.0157**	20.8	62.3	**0.0146**	22.0	56.6	**0.0134**	23.7	51.6	**0.0123**	25.2
8	73.2	**0.0168**	19.5	67.2	**0.0156**	20.9	62.2	**0.0145**	22.1	56.4	**0.0133**	23.8	51.4	**0.0122**	25.3
9	73.1	**0.0167**	19.6	67.1	**0.0155**	21.0	62.1	**0.0144**	22.3	56.2	**0.0132**	24.0	51.2	**0.0121**	25.5
—14.0	73.0	**0.0165**	—19.8	67.0	**0.0153**	—21.2	62.0	**0.0142**	—22.5	56.0	**0.0130**	—24.1	51.0	**0.0119**	—25.7
1	72.9	**0.0164**	19.9	66.8	**0.0152**	21.4	61.8	**0.0141**	22.6	55.8	**0.0129**	24.3	50.8	**0.0118**	25.9
2	72.8	**0.0163**	20.0	66.6	**0.0151**	21.5	61.6	**0.0140**	22.8	55.6	**0.0128**	24.4	50.6	**0.0117**	26.0
3	72.7	**0.0162**	20.1	66.4	**0.0150**	21.6	61.4	**0.0139**	23.9	55.4	**0.0127**	24.6	50.4	**0.0116**	26.2
4	72.6	**0.0161**	20.2	66.2	**0.0149**	21.7	61.2	**0.0138**	23.1	55.2	**0.0126**	24.7	50.2	**0.0115**	26.3
5	72.5	**0.0160**	20.3	66.0	**0.0148**	21.8	61.0	**0.0137**	23.2	55.0	**0.0125**	24.8	50.0	**0.0114**	26.5
6	72.4	**0.0159**	20.4	65.8	**0.0147**	21.9	60.8	**0.0136**	23.4	54.8	**0.0124**	25.0	49.8	**0.0113**	26.6
7	72.3	**0.0158**	20.5	65.6	**0.0146**	22.0	60.6	**0.0135**	23.5	54.6	**0.0123**	25.1	49.6	**0.0112**	26.8
8	72.2	**0.0157**	20.6	65.4	**0.0145**	22.1	60.4	**0.0134**	23.7	54.4	**0.0122**	25.3	49.4	**0.0111**	26.9
9	72.1	**0.0156**	20.7	65.2	**0.0144**	22.2	60.2	**0.0133**	23.8	54.2	**0.0121**	25.4	49.2	**0.0110**	27.1
—15.0	72.0	**0.0155**	—20.9	65.0	**0.0143**	—22.4	60.0	**0.0132**	—23.9	54.0	**0.0120**	—25.6	49.0	**0.0109**	—27.3
1	71.8	**0.0154**	21.1	64.9	**0.0142**	22.6	59.8	**0.0131**	24.0	53.8	**0.0119**	25.7	48.7	**0.0108**	27.4
2	71.6	**0.0153**	21.3	64.8	**0.0141**	22.8	59.6	**0.0130**	24.2	53.6	**0.0118**	25.9	48.4	**0.0107**	27.5
3	71.4	**0.0152**	21.4	64.7	**0.0139**	22.9	59.4	**0.0129**	24.3	53.4	**0.0117**	26.0	48.1	**0.0106**	27.7
4	71.2	**0.0151**	21.5	64.6	**0.0138**	23.0	59.2	**0.0128**	24.5	53.2	**0.0116**	26.2	47.8	**0.0105**	27.9
5	71.0	**0.0150**	21.6	64.5	**0.0137**	23.1	59.0	**0.0127**	24.6	53.0	**0.0115**	26.3	47.5	**0.0104**	28.1
6	70.8	**0.0149**	21.7	64.4	**0.0136**	23.2	58.8	**0.0126**	24.8	52.8	**0.0114**	26.5	47.2	**0.0103**	28.3
7	70.6	**0.0148**	21.8	64.3	**0.0135**	23.3	58.6	**0.0125**	24.9	52.6	**0.0113**	26.6	46.9	**0.0102**	28.5
8	70.4	**0.0147**	21.9	64.2	**0.0134**	23.4	58.4	**0.0124**	25.0	52.4	**0.0112**	26.8	46.6	**0.0101**	28.7
9	70.2	**0.0146**	22.0	64.1	**0.0133**	23.6	58.2	**0.0123**	25.2	52.2	**0.0111**	26.9	46.3	**0.0100**	28.9

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS. 1°.0 Relative humidity in hundredths.	1°.0 Force of vapor in English inches.	1°.0 Temperature of the dew-point.	1°.1 Relative humidity in hundredths.	1°.1 Force of vapor in English inches.	1°.1 Temperature of the dew-point.	1°.2 Relative humidity in hundredths.	1°.2 Force of vapor in English inches.	1°.2 Temperature of the dew-point.	1°.3 Relative humidity in hundredths.	1°.3 Force of vapor in English inches.	1°.3 Temperature of the dew-point.	1°.4 Relative humidity in hundredths.	1°.4 Force of vapor in English inches.	1°.4 Temperature of the dew-point.
—13°.0	47.0	**0.0118**	—25.8	44.0	**0.0107**	—27.5	39.0	**0.0096**	—29.3	34.0	**0.0084**	—31.3	30.0	**0.0073**	—33.4
1	46.8	**0.0117**	25.9	43.7	**0.0106**	27.7	38.7	**0.0095**	29.5	33.8	**0.0083**	31.6	29.7	**0.0072**	33.7
2	46.6	**0.0116**	26.1	43.4	**0.0105**	27.9	38.4	**0.0094**	29.7	33.6	**0.0082**	31.8	29.4	**0.0071**	33.9
3	46.4	**0.0115**	26.3	43.1	**0.0104**	28.0	38.1	**0.0093**	29.9	33.4	**0.0081**	32.0	29.1	**0.0070**	34.1
4	46.2	**0.0114**	26.5	42.8	**0.0103**	28.2	37.8	**0.0092**	30.1	33.2	**0.0080**	32.2	28.8	**0.0069**	34.3
5	46.0	**0.0113**	26.7	42.5	**0.0102**	28.4	37.5	**0.0091**	30.3	33.0	**0.0079**	32.4	28.5	**0.0068**	34.5
6	45.8	**0.0112**	26.9	42.2	**0.0101**	28.6	37.2	**0.0090**	30.5	32.8	**0.0078**	32.6	28.2	**0.0067**	34.7
7	45.6	**0.0111**	27.1	41.9	**0.0100**	28.8	36.9	**0.0089**	30.7	32.6	**0.0077**	32.8	27.9	**0.0066**	34.9
8	45.4	**0.0110**	27.2	41.6	**0.0099**	29.0	36.6	**0.0088**	30.9	32.4	**0.0076**	33.0	27.6	**0.0065**	35.1
9	45.2	**0.0109**	27.3	41.3	**0.0098**	29.2	36.3	**0.0087**	31.1	32.2	**0.0075**	33.3	27.3	**0.0064**	35.4
—14.0	45.0	**0.0107**	—27.5	41.0	**0.0096**	—29.3	36.0	**0.0085**	—31.4	32.0	**0.0073**	—33.5	27.0	**0.0062**	—35.7
1	44.7	**0.0106**	27.7	40.8	**0.0095**	29.5	35.8	**0.0084**	31.6	31.7	**0.0072**	33.7	26.7	**0.0061**	35.9
2	44.4	**0.0105**	27.9	40.6	**0.0094**	29.7	35.6	**0.0083**	31.8	31.4	**0.0071**	33.9	26.4	**0.0060**	36.1
3	44.1	**0.0104**	28.1	40.4	**0.0093**	29.9	35.4	**0.0082**	32.0	31.1	**0.0070**	34.1	26.1	**0.0059**	36.3
4	43.8	**0.0103**	28.3	40.2	**0.0092**	30.1	35.2	**0.0081**	32.2	30.8	**0.0069**	34.3	25.8	**0.0058**	36.5
5	43.5	**0.0102**	28.5	40.0	**0.0091**	30.3	35.0	**0.0080**	32.4	30.5	**0.0068**	34.5	25.5	**0.0057**	36.7
6	43.2	**0.0101**	28.7	39.8	**0.0090**	30.5	34.8	**0.0079**	32.6	30.2	**0.0067**	34.7	25.2	**0.0056**	36.9
7	42.9	**0.0100**	28.9	39.6	**0.0089**	30.7	34.6	**0.0078**	32.8	29.9	**0.0066**	34.9	24.9	**0.0055**	37.1
8	42.6	**0.0099**	29.0	39.4	**0.0088**	30.9	34.4	**0.0077**	33.0	29.6	**0.0065**	35.1	24.6	**0.0054**	37.3
9	42.3	**0.0098**	29.1	39.2	**0.0087**	31.1	34.2	**0.0076**	33.1	29.3	**0.0064**	35.3	24.3	**0.0053**	37.5
—15.0	42.0	**0.0097**	—29.2	39.0	**0.0086**	—31.2	34.0	**0.0074**	—33.2	29.0	**0.0063**	—65.4	24.0	**0.0052**	—37.8
1	41.9	**0.0096**	29.3	38.7	**0.0085**	31.3	33.7	**0.0073**	33.4	28.7	**0.0062**	35.6	23.6	**0.0051**	38.1
2	41.8	**0.0095**	29.5	38.4	**0.0084**	31.5	33.4	**0.0072**	33.6	28.4	**0.0061**	35.8	23.2	**0.0050**	38.3
3	41.7	**0.0094**	29.7	38.1	**0.0083**	31.7	33.1	**0.0071**	33.8	28.1	**0.0060**	36.0	22.8	**0.0049**	38.5
4	41.6	**0.0093**	29.9	37.8	**0.0082**	31.9	32.8	**0.0070**	34.0	27.8	**0.0059**	36.2	22.4	**0.0048**	38.7
5	41.5	**0.0092**	30.1	37.5	**0.0081**	32.1	32.5	**0.0069**	34.2	27.5	**0.0058**	36.4	22.0	**0.0047**	38.9
6	41.4	**0.0091**	30.3	37.2	**0.0080**	32.3	32.2	**0.0068**	34.4	27.2	**0.0057**	36.6	21.6	**0.0046**	39.1
7	41.3	**0.0090**	30.5	36.9	**0.0079**	32.5	31.9	**0.0067**	34.6	26.9	**0.0056**	36.8	21.2	**0.0045**	39.3
8	41.2	**0.0089**	30.7	36.6	**0.0078**	32.7	31.6	**0.0066**	34.8	26.6	**0.0055**	37.0	20.8	**0.0044**	39.5
9	41.1	**0.0088**	30.9	36.3	**0.0077**	32.8	31.3	**0.0065**	35.0	26.3	**0.0054**	37.2	20.4	**0.0043**	39.7

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS. 1°.5			1°.6			1°.7			1°.8			1°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—13°.0	25.0	**0.0061**	—35.7	21.0	**0.0050**	—38.2	16.0	**0.0038**	—41.0	11.0	**0.0027**	—43.9	......	......	......
1	24.7	**0.0060**	36.0	20.6	**0.0049**	38.4	15.6	**0.0037**	41.2	......	......	......	......	......	......
2	24.4	**0.0059**	36.2	20.2	**0.0048**	38.7	15.2	**0.0036**	41.5	......	......	......	......	......	......
3	24.1	**0.0058**	36.4	19.8	**0.0047**	38.9	14.8	**0.0035**	41.7	......	......	......	......	......	......
4	23.8	**0.0057**	36.6	19.4	**0.0046**	39.2	14.4	**0.0034**	41.9	......	......	......	......	......	......
5	23.5	**0.0056**	36.8	19.0	**0.0045**	39.4	14.0	**0.0033**	42.2	......	......	......	......	......	......
6	23.2	**0.0055**	37.0	18.6	**0.0044**	39.7	13.6	**0.0032**	42.5	......	......	......	......	......	......
7	22.9	**0.0054**	37.2	18.2	**0.0043**	39.9	13.2	**0.0031**	42.7	......	......	......	......	......	......
8	22.6	**0.0053**	37.5	17.8	**0.0042**	40.2	12.8	**0.0030**	42.9	......	......	......	......	......	......
9	22.3	**0.0052**	37.8	17.4	**0.0041**	40.4	12.4	**0.0029**	43.2	......	......	......	......	......	......
—14.0	22.0	**0.0051**	—38.0	17.0	**0.0039**	—40.7	12.0	**0.0028**	—43.5	......	......	......	......	......	......
1	21.7	**0.0050**	38.2	16.6	**0.0038**	40.9	......	......	......	......	......	......	......	......	......
2	21.4	**0.0049**	38.5	16.2	**0.0037**	41.2	......	......	......	......	......	......	......	......	......
3	21.1	**0.0048**	38.7	15.8	**0.0036**	41.4	......	......	......	......	......	......	......	......	......
4	20.8	**0.0047**	39.0	15.4	**0.0035**	41.7	......	......	......	......	......	......	......	......	......
5	20.5	**0.0046**	39.2	15.0	**0.0034**	41.9	......	......	......	......	......	......	......	......	......
6	20.2	**0.0045**	39.5	14.6	**0.0033**	42.2	......	......	......	......	......	......	......	......	......
7	19.9	**0.0044**	39.7	14.2	**0.0032**	42.4	......	......	......	......	......	......	......	......	......
8	19.6	**0.0043**	40.0	13.8	**0.0031**	42.7	......	......	......	......	......	......	......	......	......
9	19.3	**0.0042**	40.2	13.4	**0.0030**	43.0	......	......	......	......	......	......	......	......	......
—15.0	19.0	**0.0040**	—40.5	13.0	**0.0029**	—43.3	......	......	......	......	......	......	......	......	......
1	18.5	**0.0039**	40.8	......	......	......	......	......	......	......	......	......	......	......	......
2	18.0	**0.0038**	41.0	......	......	......	......	......	......	......	......	......	......	......	......
3	17.5	**0.0037**	41.3	......	......	......	......	......	......	......	......	......	......	......	......
4	17.0	**0.0036**	41.5	......	......	......	......	......	......	......	......	......	......	......	......
5	16.5	**0.0035**	41.8	......	......	......	......	......	......	......	......	......	......	......	......
6	16.0	**0.0034**	42.0	......	......	......	......	......	......	......	......	......	......	......	......
7	15.5	**0.0033**	42.3	......	......	......	......	......	......	......	......	......	......	......	......
8	15.0	**0.0032**	42.5	......	......	......	......	......	......	......	......	......	......	......	......
9	14.5	**0.0031**	42.8	......	......	......	......	......	......	......	......	......	......	......	......

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—16°.0	......	**0.0200**	......	94.0	**0.0189**	—17.1	88.0	**0.0178**	—18.3	82.0	**0.0167**	—19.5	76.0	**0.0155**	—20.9
1	......	**0.0199**	......	94.0	**0.0188**	17.2	88.0	**0.0177**	18.4	81.9	**0.0166**	19.7	75.9	**0.0154**	21.1
2	......	**0.0198**	......	94.0	**0.0187**	17.3	88.0	**0.0176**	18.5	81.8	**0.0165**	19.8	75.8	**0.0153**	21.2
3	......	**0.0197**	......	94.0	**0.0186**	17.4	88.0	**0.0175**	18.6	81.7	**0.0164**	19.9	75.7	**0.0152**	21.3
4	......	**0.0196**	......	94.0	**0.0185**	17.5	88.0	**0.0174**	18.7	81.6	**0.0163**	20.0	75.6	**0.0151**	21.4
5	......	**0.0195**	......	94.0	**0.0184**	17.6	88.0	**0.0173**	18.8	81.5	**0.0162**	20.1	75.5	**0.0150**	21.5
6	......	**0.0194**	......	94.0	**0.0183**	17.7	88.0	**0.0172**	18.9	81.4	**0.0161**	20.2	75.4	**0.0149**	21.6
7	......	**0.0193**	......	94.0	**0.0182**	17.8	88.0	**0.0171**	19.0	81.3	**0.0160**	20.3	75.3	**0.0148**	21.7
8	......	**0.0192**	......	94.0	**0.0181**	17.9	88.0	**0.0170**	19.1	81.2	**0.0159**	20.4	75.2	**0.0147**	21.8
9	......	**0.0191**	......	94.0	**0.0180**	18.0	88.0	**0.0169**	19.2	81.1	**0.0158**	20.5	75.1	**0.0146**	21.9
—17.0	......	**0.0190**	......	94.0	**0.0179**	—18.1	88.0	**0.0168**	—19.4	81.0	**0.0157**	—20.7	75.0	**0.0145**	—22.1
1	......	**0.0189**	......	94.0	**0.0178**	18.2	87.9	**0.0167**	19.6	80.9	**0.0156**	20.9	74.8	**0.0144**	22.3
2	......	**0.0188**	......	94.0	**0.0177**	18.3	87.8	**0.0166**	19.7	80.8	**0.0155**	21.0	74.6	**0.0143**	22.4
3	......	**0.0187**	......	94.0	**0.0176**	18.4	87.7	**0.0165**	19.8	80.7	**0.0154**	21.1	74.4	**0.0142**	22.5
4	......	**0.0186**	......	94.0	**0.0175**	18.5	87.6	**0.0164**	19.9	80.6	**0.0153**	21.2	74.2	**0.0141**	22.6
5	......	**0.0185**	......	94.0	**0.0174**	18.6	87.5	**0.0163**	20.0	80.5	**0.0152**	21.3	74.0	**0.0140**	22.7
6	......	**0.0184**	......	94.0	**0.0173**	18.7	87.4	**0.0162**	20.1	80.4	**0.0151**	21.4	73.8	**0.0139**	22.8
7	......	**0.0183**	......	94.0	**0.0172**	18.8	87.3	**0.0161**	20.2	80.3	**0.0150**	21.5	73.6	**0.0138**	22.9
8	......	**0.0182**	......	94.0	**0.0171**	18.9	87.2	**0.0160**	20.3	80.2	**0.0149**	21.6	73.4	**0.0137**	23.0
9	......	**0.0181**	......	94.0	**0.0170**	19.0	87.1	**0.0159**	20.4	80.1	**0.0148**	21.7	73.2	**0.0136**	23.1
—18.0	......	**0.0181**	......	94.0	**0.0170**	—19.2	87.0	**0.0158**	—20.6	80.0	**0.0147**	—21.9	73.0	**0.0136**	—23.3
1	......	**0.0180**	......	94.0	**0.0169**	19.3	86.9	**0.0157**	20.8	79.9	**0.0146**	22.1	72.9	**0.0135**	23.4
2	......	**0.0179**	......	94.0	**0.0168**	19.4	86.8	**0.0156**	20.9	79.8	**0.0145**	22.2	72.8	**0.0134**	23.6
3	......	**0.0178**	......	94.0	**0.0167**	19.5	86.7	**0.0155**	21.0	79.7	**0.0144**	22.3	72.7	**0.0133**	23.7
4	......	**0.0177**	......	94.0	**0.0166**	19.6	86.6	**0.0154**	21.1	79.6	**0.0143**	22.4	72.6	**0.0132**	23.9
5	......	**0.0176**	......	94.0	**0.0165**	19.7	86.5	**0.0153**	21.2	79.5	**0.0142**	22.5	72.5	**0.0131**	24.0
6	......	**0.0175**	......	94.0	**0.0164**	19.8	86.4	**0.0152**	21.3	79.4	**0.0141**	22.6	72.4	**0.0130**	24.2
7	......	**0.0174**	......	94.0	**0.0163**	19.9	86.3	**0.0151**	21.4	79.3	**0.0140**	22.7	72.3	**0.0129**	24.3
8	......	**0.0173**	......	94.0	**0.0162**	20.0	86.2	**0.0150**	21.5	79.2	**0.0139**	22.8	72.2	**0.0128**	24.5
9	......	**0.0172**	......	94.0	**0.0161**	20.1	86.1	**0.0149**	21.6	79.2	**0.0138**	22.9	72.1	**0.0127**	24.6

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—16°.0	70.0	**0.0144**	—22.2	64.0	**0.0132**	—23.8	58.0	**0.0121**	—25.4	52.0	**0.0110**	—27.0	46.0	**0.0098**	—29.0
1	69.9	**0.0143**	22.3	63.8	**0.0131**	23.9	57.8	**0.0120**	25.5	51.8	**0.0109**	27.2	45.8	**0.0097**	29.1
2	69.8	**0.0142**	22.5	63.6	**0.0130**	24.1	57.6	**0.0119**	25.7	51.6	**0.0108**	27.3	45.6	**0.0096**	29.3
3	69.7	**0.0141**	22.6	63.4	**0.0129**	24.2	57.4	**0.0118**	25.8	51.4	**0.0107**	27.5	45.4	**0.0095**	29.5
4	69.6	**0.0140**	22.8	63.2	**0.0128**	24.4	57.2	**0.0117**	26.0	51.2	**0.0106**	27.6	45.2	**0.0094**	29.7
5	69.5	**0.0139**	22.9	63.0	**0.0127**	24.5	57.0	**0.0116**	26.1	51.0	**0.0105**	27.8	45.0	**0.0093**	29.9
6	69.4	**0.0138**	23.1	62.8	**0.0126**	24.7	56.8	**0.0115**	26.3	50.8	**0.0104**	27.9	44.8	**0.0092**	30.1
7	69.3	**0.0137**	23.2	62.6	**0.0125**	24.8	56.6	**0.0114**	26.4	50.6	**0.0103**	28.1	44.6	**0.0091**	30.3
8	69.2	**0.0136**	23.4	62.4	**0.0124**	25.0	56.4	**0.0113**	26.6	50.4	**0.0102**	28.2	44.4	**0.0090**	30.5
9	69.1	**0.0135**	23.5	62.2	**0.0123**	25.1	56.2	**0.0112**	26.7	50.2	**0.0101**	28.4	44.2	**0.0089**	30.6
—17.0	69.0	**0.0134**	—23.6	62.0	**0.0122**	—25.3	56.0	**0.0111**	—26.9	50.0	**0.0100**	—28.6	44.0	**0.0088**	—30.7
1	68.8	**0.0133**	23.8	61.9	**0.0121**	25.5	55.9	**0.0110**	27.1	49.8	**0.0099**	28.7	43.8	**0.0087**	30.8
2	68.6	**0.0132**	24.0	61.8	**0.0120**	25.7	55.8	**0.0109**	27.2	49.6	**0.0098**	28.9	43.6	**0.0086**	30.9
3	68.4	**0.0131**	24.1	61.7	**0.0119**	25.8	55.7	**0.0108**	27.4	49.4	**0.0097**	29.0	43.4	**0.0085**	31.1
4	68.2	**0.0130**	24.2	61.6	**0.0118**	25.9	55.6	**0.0107**	27.5	49.2	**0.0096**	29.2	43.2	**0.0084**	31.2
5	68.0	**0.0129**	24.3	61.5	**0.0117**	26.0	55.5	**0.0106**	27.7	49.0	**0.0095**	29.3	43.0	**0.0083**	31.4
6	67.8	**0.0128**	24.4	61.4	**0.0116**	26.1	55.4	**0.0105**	27.8	48.8	**0.0094**	29.5	42.8	**0.0082**	31.5
7	67.6	**0.0127**	24.5	61.3	**0.0115**	26.2	55.3	**0.0104**	28.0	48.6	**0.0093**	29.6	42.6	**0.0081**	31.7
8	67.4	**0.0126**	24.6	61.2	**0.0114**	26.3	55.2	**0.0103**	28.1	48.4	**0.0092**	29.8	42.4	**0.0080**	31.8
9	67.2	**0.0125**	24.7	61.1	**0.0113**	26.4	55.1	**0.0102**	28.3	48.2	**0.0091**	30.0	42.2	**0.0079**	32.0
—18.0	67.0	**0.0125**	—24.9	61.0	**0.0113**	—26.6	55.0	**0.0102**	—28.4	48.0	**0.0091**	—30.2	42.0	**0.0079**	—32.2
1	66.9	**0.0124**	25.0	60.8	**0.0112**	26.8	54.7	**0.0101**	28.6	47.7	**0.0090**	30.3	41.7	**0.0078**	32.4
2	66.8	**0.0123**	25.2	60.6	**0.0111**	26.9	54.4	**0.0100**	28.7	47.4	**0.0089**	30.5	41.4	**0.0077**	32.6
3	66.7	**0.0122**	25.3	60.4	**0.0110**	27.1	54.1	**0.0099**	28.9	47.1	**0.0088**	30.7	41.1	**0.0076**	32.8
4	66.6	**0.0121**	25.5	60.2	**0.0109**	27.2	53.8	**0.0098**	29.0	46.8	**0.0087**	30.9	40.8	**0.0075**	33.0
5	66.5	**0.0120**	25.6	60.0	**0.0108**	27.4	53.5	**0.0097**	29.2	46.5	**0.0086**	31.1	40.5	**0.0074**	33.1
6	66.4	**0.0119**	25.8	59.8	**0.0107**	27.5	53.2	**0.0096**	29.3	46.2	**0.0085**	31.3	40.2	**0.0073**	33.2
7	66.3	**0.0118**	25.9	59.6	**0.0106**	27.7	52.9	**0.0095**	29.5	45.9	**0.0084**	31.5	39.9	**0.0072**	33.4
8	66.2	**0.0117**	26.1	59.4	**0.0105**	27.8	52.6	**0.0094**	29.6	45.6	**0.0083**	31.7	39.5	**0.0071**	33.6
9	66.1	**0.0116**	26.2	59.2	**0.0104**	28.0	52.3	**0.0092**	29.8	45.3	**0.0082**	31.9	39.0	**0.0070**	33.8

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	1°.0			1°.1			1°.2			1°.3			1°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—16°.0	41.0	**0.0087**	—31.0	36.0	**0.0076**	—32.9	31.0	**0.0064**	—35.1	26.0	**0.0053**	—37.4	20.0	**0.0041**	—40.0
1	40.8	**0.0086**	31.2	35.7	**0.0075**	33.0	30.6	**0.0063**	35.3	25.5	**0.0052**	37.7	19.5	**0.0040**	40.3
2	40.6	**0.0085**	31.4	35.4	**0.0074**	33.2	30.2	**0.0062**	35.5	25.0	**0.0051**	38.0	19.0	**0.0039**	40.5
3	40.4	**0.0084**	31.6	35.1	**0.0073**	33.4	29.8	**0.0061**	35.7	24.5	**0.0050**	38.3	18.5	**0.0038**	40.8
4	40.2	**0.0083**	31.8	34.8	**0.0072**	33.6	29.4	**0.0060**	35.9	24.0	**0.0049**	38.6	18.0	**0.0037**	41.0
5	40.0	**0.0082**	32.0	34.5	**0.0071**	33.8	29.0	**0.0059**	36.1	23.5	**0.0048**	38.8	17.5	**0.0036**	41.3
6	39.8	**0.0081**	32.2	34.2	**0.0070**	34.0	28.6	**0.0058**	36.3	23.0	**0.0047**	39.0	17.0	**0.0035**	41.5
7	39.6	**0.0080**	32.4	33.9	**0.0069**	34.2	28.2	**0.0057**	36.5	22.5	**0.0046**	39.2	16.5	**0.0034**	41.8
8	39.4	**0.0079**	32.5	33.6	**0.0068**	34.4	27.8	**0.0056**	36.7	22.0	**0.0045**	39.4	16.0	**0.0033**	42.0
9	39.2	**0.0078**	32.6	33.3	**0.0067**	34.6	27.4	**0.0055**	36.9	21.5	**0.0044**	39.6	15.5	**0.0032**	42.3
—17.0	39.0	**0.0077**	—32.7	33.0	**0.0066**	—34.8	27.0	**0.0054**	—37.2	21.0	**0.0043**	—39.8	15.0	**0.0032**	—42.5
1	38.7	**0.0076**	32.9	32.7	**0.0065**	34.9	26.7	**0.0053**	37.4	20.7	**0.0042**	40.1	......	....	......
2	38.4	**0.0075**	33.0	32.4	**0.0064**	35.0	26.4	**0.0052**	37.6	20.4	**0.0041**	40.4	......	....	......
3	38.1	**0.0074**	33.2	32.1	**0.0063**	35.2	26.1	**0.0051**	37.8	20.1	**0.0040**	40.6	......	....	......
4	37.8	**0.0073**	33.3	31.8	**0.0062**	35.4	25.8	**0.0050**	38.0	19.8	**0.0039**	40.8	......	....	......
5	37.5	**0.0072**	33.5	31.5	**0.0061**	35.6	25.5	**0.0049**	38.2	19.5	**0.0038**	41.0	......	....	......
6	37.2	**0.0071**	33.6	31.2	**0.0060**	35.8	25.2	**0.0048**	38.4	19.2	**0.0037**	41.2	......	....	......
7	36.9	**0.0070**	33.8	30.9	**0.0059**	36.0	24.9	**0.0047**	38.6	18.9	**0.0036**	41.4	......	....	......
8	36.6	**0.0069**	33.9	30.6	**0.0058**	36.2	24.6	**0.0046**	38.8	18.6	**0.0035**	41.6	......	....	......
9	36.3	**0.0068**	34.1	30.3	**0.0057**	36.4	24.3	**0.0045**	39.0	18.3	**0.0034**	41.8	......	....	......
—18.0	36.0	**0.0068**	—34.2	30.0	**0.0057**	—36.6	24.0	**0.0045**	—39.2	18.0	**0.0034**	—42.0	......	....	......
1	35.7	**0.0067**	34.5	29.7	**0.0056**	36.9	23.6	**0.0044**	39.5	......	....	......	......	....	......
2	35.4	**0.0066**	34.7	29.4	**0.0055**	37.2	23.2	**0.0043**	39.8	......	....	......	......	....	......
3	35.1	**0.0065**	34.9	29.1	**0.0054**	37.4	22.8	**0.0042**	40.1	......	....	......	......	....	......
4	34.8	**0.0064**	35.1	28.8	**0.0053**	37.6	22.4	**0.0041**	40.3	......	....	......	......	....	......
5	34.5	**0.0063**	35.3	28.5	**0.0052**	37.8	22.0	**0.0040**	40.5	......	....	......	......	....	......
6	34.2	**0.0062**	35.5	28.2	**0.0051**	38.0	21.6	**0.0039**	40.7	......	....	......	......	....	......
7	33.9	**0.0061**	35.7	27.9	**0.0050**	38.2	21.2	**0.0038**	40.9	......	....	......	......	....	......
8	33.6	**0.0060**	35.9	27.6	**0.0049**	38.4	20.8	**0.0037**	41.1	......	....	......	......	....	......
9	33.0	**0.0059**	36.1	27.3	**0.0048**	38.6	20.4	**0.0036**	41.3	......	....	......	......	....	......

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—19°.0	......	**0.0171**	......	94.0	**0.0160**	—20.2	86.0	**0.0148**	—21.8	79.0	**0.0137**	—23.1	72.0	**0.0126**	—24.7
1	......	**0.0170**	......	93.9	**0.0160**	20.3	85.9	**0.0148**	21.9	78.9	**0.0137**	23.3	71.9	**0.0126**	24.9
2	......	**0.0170**	......	93.8	**0.0159**	20.4	85.8	**0.0147**	22.0	78.8	**0.0136**	23.4	71.8	**0.0125**	25.0
3	......	**0.0169**	......	93.7	**0.0158**	20.5	85.7	**0.0146**	22.1	78.7	**0.0135**	23.5	71.7	**0.0124**	25.1
4	......	**0.0168**	......	93.6	**0.0157**	20.6	85.6	**0.0145**	22.2	78.6	**0.0134**	23.6	71.6	**0.0123**	25.2
5	......	**0.0167**	......	93.5	**0.0156**	20.7	85.5	**0.0144**	22.3	78.5	**0.0133**	23.7	71.5	**0.0122**	25.3
6	......	**0.0166**	......	93.4	**0.0155**	20.8	85.4	**0.0143**	22.4	78.4	**0.0132**	23.8	71.4	**0.0121**	25.4
7	......	**0.0165**	......	93.3	**0.0154**	20.9	85.3	**0.0142**	22.5	78.3	**0.0131**	23.9	71.3	**0.0120**	25.5
8	......	**0.0164**	......	93.2	**0.0153**	21.0	85.2	**0.0141**	22.6	78.2	**0.0130**	24.0	71.2	**0.0119**	25.6
9	......	**0.0163**	......	93.1	**0.0152**	21.1	85.1	**0.0140**	22.7	78.1	**0.0129**	24.1	71.1	**0.0118**	25.7
—20.0	......	**0.0163**	......	93.0	**0.0152**	—21.3	85.0	**0.0140**	—22.7	78.0	**0.0129**	—24.3	71.0	**0.0118**	—25.9
1	......	**0.0162**	......	93.0	**0.0151**	21.4	85.0	**0.0139**	22.9	77.9	**0.0128**	24.5	69.9	**0.0117**	26.1
2	......	**0.0161**	......	93.0	**0.0150**	21.5	85.0	**0.0138**	23.0	77.8	**0.0127**	24.7	69.8	**0.0116**	26.3
3	......	**0.0160**	......	93.0	**0.0149**	21.6	85.0	**0.0137**	23.1	77.7	**0.0126**	24.8	69.7	**0.0115**	26.4
4	......	**0.0159**	......	93.0	**0.0148**	21.7	85.0	**0.0136**	23.2	77.6	**0.0125**	24.9	69.6	**0.0114**	26.5
5	......	**0.0158**	......	93.0	**0.0147**	21.8	85.0	**0.0135**	23.3	77.5	**0.0124**	25.0	69.5	**0.0113**	26.6
6	......	**0.0157**	......	93.0	**0.0146**	21.9	85.0	**0.0134**	23.4	77.4	**0.0123**	25.1	69.4	**0.0112**	26.7
7	......	**0.0156**	......	93.0	**0.0145**	22.0	85.0	**0.0133**	23.5	77.3	**0.0122**	25.2	69.3	**0.0111**	26.8
8	......	**0.0155**	......	93.0	**0.0144**	22.1	85.0	**0.0132**	23.6	77.2	**0.0121**	25.3	69.2	**0.0110**	26.9
9	......	**0.0154**	......	93.0	**0.0143**	22.2	85.0	**0.0131**	23.8	77.1	**0.0120**	25.4	69.1	**0.0109**	27.0
—21.0	......	**0.0154**	......	93.0	**0.0143**	—22.4	85.0	**0.0131**	—24.0	77.0	**0.0120**	—25.6	69.0	**0.0109**	—27.2
1	......	**0.0154**	......	92.9	**0.0142**	22.5	84.9	**0.0130**	24.1	76.9	**0.0119**	25.8	68.9	**0.0108**	27.4
2	......	**0.0153**	......	92.8	**0.0142**	22.6	84.8	**0.0130**	24.2	76.8	**0.0119**	26.0	68.8	**0.0108**	27.6
3	......	**0.0152**	......	92.7	**0.0141**	22.7	84.7	**0.0129**	24.3	76.7	**0.0118**	26.1	68.7	**0.0107**	27.8
4	......	**0.0151**	......	92.6	**0.0141**	22.8	84.6	**0.0128**	24.4	76.6	**0.0118**	26.2	68.6	**0.0107**	27.9
5	......	**0.0150**	......	92.5	**0.0140**	22.9	84.5	**0.0127**	24.5	76.5	**0.0117**	26.3	68.5	**0.0106**	28.0
6	......	**0.0149**	......	92.4	**0.0139**	23.0	84.4	**0.0126**	24.6	76.4	**0.0116**	26.4	68.4	**0.0105**	28.1
7	......	**0.0148**	......	92.3	**0.0138**	23.1	84.3	**0.0125**	24.7	76.3	**0.0115**	26.5	68.3	**0.0104**	28.2
8	......	**0.0147**	......	92.2	**0.0137**	23.2	84.2	**0.0124**	24.8	76.2	**0.0114**	26.6	68.2	**0.0103**	28.3
9	......	**0.0146**	......	92.1	**0.0136**	23.3	84.1	**0.0123**	24.9	76.1	**0.0113**	26.7	68.1	**0.0102**	28.4

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—19°.0	66.0	**0.0115**	—26.3	59.0	**0.0103**	—28.1	52.0	**0.0092**	—30.0	45.0	**0.0081**	—32.0	39.0	**0.0070**	—34.0
1	65.7	**0.0114**	26.4	58.7	**0.0103**	28.3	51.7	**0.0092**	30.2	44.8	**0.0081**	32.2	38.7	**0.0070**	34.1
2	65.4	**0.0113**	26.6	58.4	**0.0102**	28.5	51.4	**0.0091**	30.4	44.6	**0.0080**	32.3	38.4	**0.0069**	34.2
3	65.1	**0.0112**	26.7	58.1	**0.0101**	28.7	51.1	**0.0090**	30.6	44.4	**0.0079**	32.5	38.1	**0.0068**	34.3
4	64.8	**0.0111**	26.9	57.8	**0.0100**	28.9	50.8	**0.0089**	30.8	44.2	**0.0078**	32.6	37.8	**0.0067**	34.5
5	64.5	**0.0110**	27.0	57.5	**0.0099**	29.0	50.5	**0.0088**	30.9	44.0	**0.0077**	32.8	37.5	**0.0066**	34.7
6	64.2	**0.0109**	27.2	57.2	**0.0098**	29.1	50.2	**0.0087**	31.0	43.8	**0.0076**	32.9	37.2	**0.0065**	34.9
7	63.9	**0.0108**	27.3	56.9	**0.0097**	29.2	49.9	**0.0086**	31.1	43.6	**0.0075**	33.1	36.9	**0.0064**	35.1
8	63.6	**0.0107**	27.5	56.6	**0.0096**	29.3	49.6	**0.0085**	31.2	43.4	**0.0074**	33.2	36.6	**0.0063**	35.3
9	63.3	**0.0106**	27.6	56.3	**0.0095**	29.4	49.3	**0.0084**	31.3	43.2	**0.0073**	33.4	36.3	**0.0062**	35.5
—20.0	63.0	**0.0106**	—27.7	56.0	**0.0095**	—29.5	49.0	**0.0084**	—31.4	43.0	**0.0073**	—33.5	36.0	**0.0062**	—35.7
1	62.9	**0.0105**	27.9	55.8	**0.0094**	29.7	48.8	**0.0083**	31.6	42.7	**0.0072**	33.7	35.7	**0.0061**	35.9
2	62.8	**0.0105**	28.1	55.6	**0.0093**	29.9	48.6	**0.0082**	31.8	42.4	**0.0071**	33.8	35.4	**0.0060**	36.0
3	62.7	**0.0104**	28.2	55.4	**0.0092**	30.1	48.4	**0.0081**	32.0	42.1	**0.0070**	34.0	35.1	**0.0059**	36.2
4	62.6	**0.0103**	28.3	55.2	**0.0091**	30.3	48.2	**0.0080**	32.2	41.8	**0.0069**	34.1	34.8	**0.0058**	36.3
5	62.5	**0.0102**	28.4	55.0	**0.0090**	30.5	48.0	**0.0079**	32.4	41.5	**0.0068**	34.3	34.5	**0.0057**	36.5
6	62.4	**0.0101**	28.5	54.8	**0.0089**	30.7	47.8	**0.0078**	32.6	41.2	**0.0067**	34.4	34.2	**0.0056**	36.6
7	62.3	**0.0100**	28.6	54.6	**0.0088**	30.9	47.6	**0.0077**	32.7	40.9	**0.0066**	34.6	33.9	**0.0055**	36.8
8	62.2	**0.0099**	28.7	54.4	**0.0087**	31.0	47.4	**0.0076**	32.8	40.6	**0.0065**	34.7	33.6	**0.0054**	36.9
9	62.1	**0.0098**	28.8	54.2	**0.0086**	31.1	47.2	**0.0075**	32.9	40.3	**0.0064**	34.9	33.3	**0.0053**	37.1
—21.0	62.0	**0.0098**	—29.0	54.0	**0.0086**	—31.2	47.0	**0.0075**	—33.0	40.0	**0.0064**	—35.1	33.0	**0.0053**	—37.3
1	61.8	**0.0097**	29.1	53.8	**0.0085**	31.4	46.8	**0.0074**	33.2	39.7	**0.0064**	35.3	32.5	**0.0053**	37.4
2	61.6	**0.0097**	29.2	53.6	**0.0085**	31.6	46.6	**0.0074**	33.4	39.4	**0.0063**	35.5	32.0	**0.0052**	37.6
3	61.4	**0.0096**	29.3	53.4	**0.0084**	31.8	46.4	**0.0073**	33.6	39.1	**0.0062**	35.7	31.5	**0.0051**	37.8
4	61.2	**0.0095**	29.4	53.2	**0.0084**	31.9	46.2	**0.0073**	33.8	38.8	**0.0061**	35.9	31.0	**0.0050**	38.0
5	61.0	**0.0094**	29.5	53.0	**0.0083**	32.0	46.0	**0.0072**	34.0	38.5	**0.0060**	36.1	30.5	**0.0049**	38.2
6	60.8	**0.0093**	29.6	52.8	**0.0082**	32.1	45.8	**0.0071**	34.2	38.2	**0.0059**	36.3	30.0	**0.0048**	38.4
7	60.6	**0.0092**	29.7	52.6	**0.0081**	32.2	45.6	**0.0070**	34.3	37.9	**0.0058**	36.5	29.5	**0.0047**	38.6
8	60.4	**0.0091**	29.9	52.4	**0.0080**	32.3	45.4	**0.0069**	34.4	37.6	**0.0057**	36.6	29.0	**0.0046**	38.8
9	60.2	**0.0090**	30.1	52.2	**0.0079**	32.4	45.2	**0.0068**	34.5	37.3	**0.0056**	36.7	28.5	**0.0045**	39.0

DIFFERENCE OF DRY AND WET BULB THERMOMETERS.

Wet-bulb.	1°.0 Relative humidity in hundredths.	1°.0 Force of vapor in English inches.	1°.0 Temperature of the dew-point.	1°.1 Relative humidity in hundredths.	1°.1 Force of vapor in English inches.	1°.1 Temperature of the dew-point.	1°.2 Relative humidity in hundredths.	1°.2 Force of vapor in English inches.	1°.2 Temperature of the dew-point.	1°.3 Relative humidity in hundredths.	1°.3 Force of vapor in English inches.	1°.3 Temperature of the dew-point.	1°.4 Relative humidity in hundredths.	1°.4 Force of vapor in English inches.	1°.4 Temperature of the dew-point.
-19.0	33.0	**0.0058**	-36.3	27.0	**0.0047**	-38.8	20.0	**0.0036**	-41.5						
1	32.7	**0.0058**	36.5	26.6	**0.0047**	39.0									
2	32.4	**0.0057**	36.7	26.2	**0.0046**	39.2									
3	32.1	**0.0057**	36.9	25.8	**0.0046**	39.4									
4	31.8	**0.0056**	37.1	25.4	**0.0045**	39.6									
5	31.5	**0.0055**	37.3	25.0	**0.0044**	39.8									
6	31.2	**0 0051**	37.5	24.6	**0.0043**	40.0									
7	30.9	**0.0053**	37.6	24.2	**0.0042**	40.2									
8	30.6	**0.0052**	37.7	23.8	**0.0041**	40.4									
9	30.3	**0.0051**	37.8	23.4	**0.0040**	40.6									
-20.0	30.0	**0.0050**	-38.0	23.0	**0.0039**	-40.8									
1	29.5	**0.0019**	38.3												
2	29.0	**0.0018**	38.6												
3	28.5	**0.0017**	38.8												
4	28.0	**0.0016**	39.0												
5	27.5	**0.0015**	39.2												
6	27.5	**0.0014**	39.4												
7	27.5	**0.0013**	39.6												
8	26.0	**0.0012**	39.8												
9	25.5	**0.0011**	40.0												
-21.0	25.0	**0.0011**	-40.2												
1															
2															
3															
4															
5															
6															
7															
8															
9															

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—22°.0	......	**0.0146**	......	92.0	**0.0135**	—23.5	84.0	**0.0123**	—25.1	76.0	**0.0112**	—26.9	68.0	**0.0101**	—28.5
1	......	**0.0146**	......	92.0	**0.0135**	23.6	83.9	**0.0123**	25.3	75.8	**0.0112**	27.0	67.8	**0.0101**	28.7
2	......	**0.0145**	......	92.0	**0.0134**	23.7	83.8	**0.0122**	25.4	75.6	**0.0111**	27.1	67.6	**0.0100**	28.9
3	......	**0.0144**	......	92.0	**0.0133**	23.8	83.7	**0.0121**	25.5	75.4	**0.0110**	27.2	67.4	**0.0099**	29.0
4	......	**0.0143**	......	92.0	**0.0132**	23.9	83.6	**0.0120**	25.6	75.2	**0.0109**	27.3	67.2	**0.0098**	29.1
5	......	**0.0142**	......	92.0	**0.0131**	24.0	83.5	**0.0119**	25.7	75.0	**0.0108**	27.4	67.0	**0.0097**	29.2
6	......	**0.0141**	......	92.0	**0.0130**	24.1	83.4	**0.0118**	25.8	74.8	**0.0107**	27.5	66.8	**0.0096**	29.3
7	......	**0.0140**	......	92.0	**0.0129**	24.2	83.3	**0.0117**	25.9	74.6	**0.0106**	27.6	66.6	**0.0095**	29.4
8	......	**0.0139**	......	92.0	**0.0128**	24.3	83.2	**0.0116**	26.0	74.4	**0.0105**	27.7	66.4	**0.0094**	29.5
9	......	**0.0138**	......	92.0	**0.0127**	24.4	83.1	**0.0115**	26.1	74.2	**0.0104**	27.8	66.2	**0.0093**	29.6
—23.0	......	**0.0138**	......	92.0	**0.0127**	—24.6	83.0	**0.0115**	—26.3	74.0	**0.0104**	—28.0	66.0	**0.0093**	—29.8
1	......	**0.0137**	......	91.9	**0.0126**	24.7	82.9	**0.0114**	26.4	73.9	**0.0103**	28.2	65.8	**0.0092**	29.9
2	......	**0.0137**	......	91.8	**0.0126**	24.8	82.8	**0.0114**	26.5	73.8	**0.0103**	28.3	65.6	**0.0092**	30.1
3	......	**0.0136**	......	91.7	**0.0125**	24.9	82.7	**0.0113**	26.6	73.7	**0.0102**	28.4	65.4	**0.0091**	30.3
4	......	**0.0136**	......	91.6	**0.0125**	25.0	82.6	**0.0113**	26.7	73.6	**0.0102**	28.5	65.2	**0.0091**	30.5
5	......	**0.0135**	......	91.5	**0.0124**	25.1	82.5	**0.0112**	26.8	73.5	**0.0101**	28.6	65.0	**0.0090**	30.7
6	......	**0.0135**	......	91.4	**0.0124**	25.2	82.4	**0.0111**	26.9	73.4	**0.0101**	28.7	64.8	**0.0090**	30.8
7	......	**0.0134**	......	91.3	**0.0123**	25.3	82.3	**0.0110**	27.0	73.3	**0.0100**	28.8	64.6	**0.0089**	30.9
8	......	**0.0133**	......	91.2	**0.0122**	25.4	82.2	**0.0109**	27.1	73.2	**0.0099**	28.9	64.4	**0.0088**	31.0
9	......	**0.0132**	......	91.1	**0.0121**	25.5	82.1	**0.0108**	27.2	73.1	**0.0098**	29.0	64.2	**0.0087**	31.1
—24.0	......	**0.0131**	......	91.0	**0.0120**	—25.6	82.0	**0.0108**	—27.4	73.0	**0.0097**	—29.2	64.0	**0.0086**	—31.2
1	......	**0.0131**	......	91.0	**0.0120**	25.7	81.9	**0.0107**	27.5	72.9	**0.0097**	29.4	63.8	**0.0086**	31.4
2	......	**0.0130**	......	91.0	**0.0119**	25.8	81.8	**0.0107**	27.6	72.8	**0.0096**	29.5	63.6	**0.0085**	31.5
3	......	**0.0130**	......	91.0	**0.0119**	25.9	81.7	**0.0106**	27.7	72.7	**0.0096**	29.6	63.4	**0.0085**	31.6
4	......	**0.0129**	......	91.0	**0.0118**	26.0	81.6	**0.0106**	27.8	72.6	**0.0095**	29.7	63.2	**0.0084**	31.7
5	......	**0.0129**	......	91.0	**0.0118**	26.1	81.5	**0.0105**	27.9	72.5	**0.0095**	29.8	63.0	**0.0084**	31.8
6	......	**0.0128**	......	91.0	**0.0117**	26.2	81.4	**0.0105**	28.0	72.4	**0.0094**	29.9	62.8	**0.0083**	31.9
7	......	**0.0127**	......	91.0	**0.0116**	26.3	81.3	**0.0104**	28.1	72.3	**0.0093**	30.0	62.6	**0.0082**	32.0
8	......	**0.0126**	......	91.0	**0.0115**	26.4	81.2	**0.0103**	28.2	72.2	**0.0092**	30.1	62.4	**0.0081**	32.1
9	......	**0.0125**	......	91.0	**0.0114**	26.5	81.1	**0.0102**	28.3	72.1	**0.0091**	30.2	62.2	**0.0080**	32.2

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—22°.0	60.0	**0.0090**	—30.3	52.0	**0.0078**	—32.5	45.0	**0.0067**	—34.6	37.0	**0.0056**	—36.8	28.0	**0.0045**	—39.2
1	59.8	**0.0090**	30.4	51.8	**0.0078**	32.7	44.6	**0.0067**	34.8	36.6	**0.0056**	36.9	27.6	**0.0045**	39.4
2	59.6	**0.0089**	30.6	51.6	**0.0077**	32.8	44.2	**0.0066**	35.0	36.2	**0.0055**	37.1	27.2	**0.0044**	39.6
3	59.4	**0.0088**	30.7	51.4	**0.0076**	33.0	43.8	**0.0065**	35.2	35.8	**0.0055**	37.3	26.8	**0.0044**	39.8
4	59.2	**0.0087**	30.9	51.2	**0.0075**	33.1	43.4	**0.0064**	35.4	35.4	**0.0054**	37.5	26.4	**0.0043**	40.0
5	59.0	**0.0086**	31.0	51.0	**0.0074**	33.3	43.0	**0.0063**	35.6	35.0	**0.0053**	37.7	26.0	**0.0042**	40.2
6	58.8	**0.0085**	31.2	50.8	**0.0073**	33.4	42.6	**0.0062**	35.8	34.6	**0.0052**	37.9	25.6	**0.0041**	40.4
7	58.6	**0.0084**	31.3	50.6	**0.0072**	33.6	42.2	**0.0061**	35.9	34.2	**0.0051**	38.1	25.2	**0.0040**	40.6
8	58.4	**0.0083**	31.5	50.4	**0.0071**	33.7	41.8	**0.0060**	36.0	33.8	**0.0050**	38.3	24.8	**0.0039**	40.8
9	58.2	**0.0082**	31.6	50.2	**0.0070**	33.9	41.4	**0.0059**	36.1	33.4	**0.0049**	38.4	24.4	**0.0038**	41.0
—23.0	58.0	**0.0082**	—31.7	50.0	**0.0070**	—34.0	41.0	**0.0059**	—36.2	33.0	**0.0048**	—38.5	24.0	**0.0037**	—41.2
1	57.8	**0.0081**	31.9	49.7	**0.0069**	34.1	40.7	**0.0059**	36.4	32.6	**0.0048**	38.6	23.6	**0.0037**	41.3
2	57.6	**0.0081**	32.1	49.4	**0.0069**	34.3	40.4	**0.0058**	36.5	32.2	**0.0047**	38.7	23.2	**0.0036**	41.5
3	57.4	**0.0080**	32.2	49.1	**0.0068**	34.4	40.1	**0.0058**	36.7	31.8	**0.0047**	38.9	22.8	**0.0036**	41.7
4	57.2	**0.0080**	32.3	48.8	**0.0068**	34.6	39.8	**0.0057**	36.8	31.4	**0.0046**	39.1	22.4	**0.0035**	41.9
5	57.0	**0.0079**	32.4	48.5	**0.0067**	34.7	39.5	**0.0057**	37.0	31.0	**0.0046**	39.3	22.0	**0.0035**	42.1
6	56.8	**0.0078**	32.5	48.2	**0.0067**	34.9	39.2	**0.0056**	37.1	30.6	**0.0045**	39.5	21.6	**0.0034**	42.3
7	56.6	**0.0077**	32.6	47.9	**0.0066**	35.0	38.9	**0.0055**	37.3	30.2	**0.0044**	39.7	21.2	**0.0033**	42.5
8	56.4	**0.0076**	32.7	47.6	**0.0065**	35.2	38.6	**0.0054**	37.4	29.8	**0.0043**	39.9	20.8	**0.0032**	42.7
9	56.2	**0.0075**	32.8	47.3	**0.0064**	35.3	38.3	**0.0053**	37.6	29.4	**0.0042**	40.1	20.4	**0.0031**	42.9
—24.0	56.0	**0.0075**	—33.0	47.0	**0.0063**	—35.4	38.0	**0.0052**	—37.7	29.0	**0.0041**	—40.2	20.0	**0.0030**	—43.0
1	55.8	**0.0074**	33.1	46.8	**0.0063**	35.6	37.8	**0.0052**	37.8	28.8	**0.0041**	40.3	19.8	**0.0030**	43.2
2	55.6	**0.0074**	33.3	46.6	**0.0062**	35.8	37.6	**0.0051**	38.0	28.6	**0.0040**	40.4	19.6	**0.0029**	43.4
3	55.4	**0.0073**	33.4	46.4	**0.0062**	35.9	37.4	**0.0051**	38.1	28.4	**0.0040**	40.6	19.4	**0.0029**	43.6
4	55.2	**0.0073**	33.6	46.2	**0.0061**	36.0	37.2	**0.0050**	38.3	28.2	**0.0039**	40.8	19.2	**0.0028**	43.8
5	55.0	**0.0072**	33.7	46.0	**0.0061**	36.1	37.0	**0.0050**	38.4	28.0	**0.0039**	41.0	19.0	**0.0027**	44.0
6	54.8	**0.0071**	33.9	45.8	**0.0060**	36.2	36.8	**0.0049**	38.6	27.8	**0.0038**	41.2	18.8	**0.0026**	44.2
7	54.6	**0.0070**	34.0	45.6	**0.0059**	36.3	36.6	**0.0048**	38.7	27.6	**0.0037**	41.4	18.6	**0.0025**	44.4
8	54.4	**0.0069**	34.2	45.4	**0.0058**	36.4	36.4	**0.0047**	38.9	27.4	**0.0036**	41.6	18.4	**0.0024**	44.6
9	54.2	**0.0068**	34.3	45.2	**0.0056**	36.5	36.2	**0.0046**	39.0	27.2	**0.0035**	41.8	18.2	**0.0023**	44.8

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—25°.0	......	**0.0124**	......	91.0	**0.0114**	—26.6	81.0	**0.0101**	—28.5	72.0	**0.0090**	—30.4	62.0	**0.0079**	—32.4
1	......	**0.0124**	......	90.9	**0.0113**	26.7	80.9	**0.0101**	28.7	71.8	**0.0090**	30.6	61.8	**0.0079**	32.6
2	......	**0.0123**	......	90.8	**0.0112**	26.8	80.8	**0.0100**	28.8	71.6	**0.0089**	30.8	61.6	**0.0078**	32.7
3	......	**0.0123**	......	90.7	**0.0112**	26.9	80.7	**0.0100**	28.9	71.4	**0.0089**	30.9	61.4	**0.0078**	32.8
4	......	**0.0122**	......	90.6	**0.0111**	27.0	80.6	**0.0099**	29.0	71.2	**0.0088**	31.0	61.2	**0.0077**	32.9
5	......	**0.0122**	......	90.5	**0.0111**	27.1	80.5	**0.0099**	29.1	71.0	**0.0088**	31.1	61.0	**0.0077**	33.0
6	......	**0.0121**	......	90.4	**0.0110**	27.2	80.4	**0.0098**	29.2	70.8	**0.0087**	31.2	60.8	**0.0076**	33.1
7	......	**0.0120**	......	90.3	**0.0109**	27.3	80.3	**0.0097**	29.3	70.6	**0.0086**	31.3	60.6	**0.0075**	33.2
8	......	**0.0119**	......	90.2	**0.0108**	27.4	80.2	**0.0096**	29.4	70.4	**0.0085**	31.4	60.4	**0.0074**	33.3
9	......	**0.0118**	......	90.1	**0.0107**	27.5	80.1	**0.0095**	29.5	70.2	**0.0084**	31.5	60.2	**0.0073**	33.4
—26.0	......	**0.0117**	......	90.0	**0.0106**	—27.7	80.0	**0.0094**	—29.7	70.0	**0.0083**	—31.7	60.0	**0.0072**	—33.6
1	......	**0.0117**	......	89.9	**0.0106**	27.9	79.9	**0.0094**	29.8	69.9	**0.0083**	31.8	59.8	**0.0072**	33.8
2	......	**0.0116**	......	89.8	**0.0105**	28.0	79.8	**0.0093**	29.9	69.8	**0.0082**	31.9	59.6	**0.0071**	34.0
3	......	**0.0116**	......	89.7	**0.0104**	28.1	79.7	**0.0093**	30.0	69.7	**0.0082**	32.0	59.4	**0.0071**	34.2
4	......	**0.0115**	......	89.6	**0.0104**	28.2	79.6	**0.0092**	30.1	69.6	**0.0081**	32.1	59.2	**0.0070**	34.3
5	......	**0.0115**	......	89.5	**0.0103**	28.3	79.5	**0.0092**	30.2	69.5	**0.0081**	32.2	59.0	**0.0070**	34.4
6	......	**0.0114**	......	89.4	**0.0103**	28.4	79.4	**0.0091**	30.3	69.4	**0.0080**	32.3	58.8	**0.0069**	34.5
7	......	**0.0113**	......	89.3	**0.0102**	28.5	79.3	**0.0091**	30.4	69.3	**0.0079**	32.4	58.6	**0.0068**	34.6
8	......	**0.0112**	......	89.2	**0.0101**	28.6	79.2	**0.0090**	30.5	69.2	**0.0078**	32.5	58.4	**0.0067**	34.7
9	......	**0.0111**	......	89.1	**0.0100**	28.7	79.1	**0.0089**	30.6	69.1	**0.0077**	32.6	58.2	**0.0066**	34.8
—27.0	......	**0.0110**	......	89.0	**0.0099**	—28.8	79.0	**0.0088**	—30.8	69.0	**0.0076**	—32.8	58.0	**0.0065**	—35.0
1	......	**0.0110**	......	89.0	**0.0099**	28.9	78.9	**0.0088**	30.9	68.8	**0.0076**	33.0	57.8	**0.0065**	35.2
2	......	**0.0109**	......	89.0	**0.0098**	29.0	78.8	**0.0087**	31.0	68.6	**0.0075**	33.1	57.6	**0.0064**	35.3
3	......	**0.0109**	......	89.0	**0.0098**	29.1	78.7	**0.0087**	31.1	68.4	**0.0075**	33.2	57.4	**0.0064**	35.4
4	......	**0.0108**	......	89.0	**0.0097**	29.2	78.6	**0.0086**	31.2	68.2	**0.0074**	33.3	57.2	**0.0063**	35.5
5	......	**0.0108**	......	89.0	**0.0097**	29.3	78.5	**0.0086**	31.3	68.0	**0.0074**	33.4	57.0	**0.0063**	35.6
6	......	**0.0107**	......	89.0	**0.0096**	29.4	78.4	**0.0085**	31.4	67.8	**0.0073**	33.5	56.8	**0.0062**	35.7
7	......	**0.0107**	......	89.0	**0.0096**	29.5	78.3	**0.0085**	31.5	67.6	**0.0073**	33.6	56.6	**0.0062**	35.8
8	......	**0.0106**	......	89.0	**0.0095**	29.6	78.2	**0.0084**	31.6	67.4	**0.0072**	33.7	56.4	**0.0061**	35.9
9	......	**0.0105**	......	89.0	**0.0094**	29.7	78.1	**0.0083**	31.7	67.2	**0.0071**	33.8	56.2	**0.0060**	36.0

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—25°.0	54.0	**0.0068**	—34.4	45.0	**0.0056**	—36.6	36.0	**0.0045**	—39.1	27.0	**0.0034**	—42.0	18.0	**0.0023**	—45.0
1	53.8	**0.0068**	34.6	44.7	**0.0056**	36.8	35.5	**0.0045**	39.2	26.4	**0.0034**	42.1	17.4	**0.0023**	45.2
2	53.6	**0.0067**	34.7	44.4	**0.0055**	36.9	35.0	**0.0044**	39.4	25.8	**0.0033**	42.3	16.8	**0.0022**	45.4
3	53.4	**0.0067**	34.9	44.1	**0.0055**	37.1	34.5	**0.0044**	39.6	25.2	**0.0033**	42.5	16.2	**0.0022**	45.6
4	53.2	**0.0066**	35.0	43.8	**0.0054**	37.2	34.0	**0.0043**	39.8	24.6	**0.0032**	42.7	15.6	**0.0021**	45.8
5	53.0	**0.0066**	35.2	43.5	**0.0054**	37.4	33.5	**0.0043**	40.0	24.0	**0.0032**	42.9	15.0	**0.0021**	46.0
6	52.8	**0.0065**	35.3	43.2	**0.0053**	37.5	33.0	**0.0042**	40.2	23.4	**0.0031**	43.1	14.4	**0.0020**	46.2
7	52.6	**0.0064**	35.5	42.9	**0.0052**	37.7	32.5	**0.0041**	40.4	22.8	**0.0030**	43.3	13.8	**0.0019**	46.4
8	52.4	**0.0063**	35.6	42.6	**0.0051**	37.8	32.0	**0.0040**	40.6	22.2	**0.0029**	43.5	13.2	**0.0018**	46.6
9	52.2	**0.0062**	35.7	42.3	**0.0050**	38.0	31.5	**0.0039**	40.8	21.6	**0.0028**	43.7	12.6	**0.0017**	46.8
—26.0	52.0	**0.0061**	—35.8	42.0	**0.0049**	—38.2	31.0	**0.0038**	—40.9	21.0	**0.0027**	—43.8	12.0	**0.0016**	—47.0
1	51.7	**0.0061**	35.9	41.7	**0.0049**	38.4	30.7	**0.0038**	41.0	20.6	**0.0027**	44.0	......	....	......
2	51.4	**0.0060**	36.1	41.4	**0.0048**	38.5	30.4	**0.0037**	41.2	20.2	**0.0026**	44.2	......	....	......
3	51.1	**0.0060**	36.2	41.1	**0.0048**	38.7	30.1	**0.0036**	41.4	19.8	**0.0026**	44.4	......	....	......
4	50.8	**0.0059**	36.4	40.8	**0.0047**	38.8	29.8	**0.0036**	41.6	19.4	**0.0025**	44.6	......	....	......
5	50.5	**0.0059**	36.5	40.5	**0.0047**	39.0	29.5	**0.0035**	41.8	19.0	**0.0025**	44.8	......	....	......
6	50.2	**0.0058**	36.7	40.2	**0.0046**	39.1	29.2	**0.0035**	42.0	18.6	**0.0024**	45.0	......	....	......
7	49.9	**0.0057**	36.8	39.9	**0.0046**	39.3	28.9	**0.0034**	42.2	18.2	**0.0023**	45.2	......	....	......
8	49.6	**0.0056**	37.0	39.6	**0.0045**	39.4	28.6	**0.0033**	42.4	17.8	**0.0022**	45.4	......	....	......
9	49.3	**0.0055**	37.1	39.3	**0.0044**	39.6	28.3	**0.0032**	42.6	17.4	**0.0021**	45.6	......	....	......
—27.0	49.0	**0.0054**	—37.2	39.0	**0.0043**	—39.8	28.0	**0.0031**	—42.8	17.0	**0.0020**	—45.9	......	....	......
1	48.7	**0.0054**	37.3	38.6	**0.0043**	40.0	27.5	**0.0031**	42.9	......	....	......	......	....	......
2	48.4	**0.0053**	37.5	38.2	**0.0042**	40.1	27.0	**0.0030**	43.1	......	....	......	......	....	......
3	48.1	**0.0053**	37.6	37.8	**0.0042**	40.3	26.5	**0.0030**	43.2	......	....	......	......	....	......
4	47.8	**0.0052**	37.8	37.4	**0.0041**	40.4	26.0	**0.0029**	43.4	......	....	......	......	....	......
5	47.5	**0.0052**	37.9	37.0	**0.0041**	40.6	25.5	**0.0029**	43.5	......	....	......	......	....	......
6	47.2	**0.0051**	38.1	36.6	**0.0040**	40.7	25.0	**0.0028**	43.7	......	....	......	......	....	......
7	46.9	**0.0051**	38.2	36.2	**0.0039**	40.9	24.5	**0.0028**	43.8	......	....	......	......	....	......
8	46.6	**0.0050**	38.4	35.8	**0.0038**	41.0	24.0	**0.0027**	44.0	......	....	......	......	....	......
9	46.3	**0.0049**	38.5	35.4	**0.0037**	41.3	23.5	**0.0026**	44.1	......	....	......	......	....	......

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—28°.0	......	**0.0104**	......	89.0	**0.0093**	—29.8	78.0	**0.0082**	—31.9	67.0	**0.0070**	—34.0	56.0	**0.0059**	—36.2
1	......	**0.0104**	......	88.9	**0.0093**	30.0	77.9	**0.0082**	32.1	66.8	**0.0070**	34.2	55.7	**0.0059**	36.4
2	......	**0.0103**	......	88.8	**0.0092**	30.1	77.8	**0.0081**	32.2	66.6	**0.0069**	34.3	55.4	**0.0058**	36.5
3	......	**0.0103**	......	88.7	**0.0092**	30.2	77.7	**0.0081**	32.3	66.4	**0.0069**	34.4	55.1	**0.0058**	36.6
4	......	**0.0102**	......	88.6	**0.0091**	30.3	77.6	**0.0080**	32.4	66.2	**0.0068**	34.5	54.8	**0.0057**	36.7
5	......	**0.0102**	......	88.5	**0.0091**	30.4	77.5	**0.0080**	32.5	66.0	**0.0068**	34.6	54.5	**0.0057**	36.8
6	......	**0.0101**	......	88.4	**0.0090**	30.5	77.4	**0.0079**	32.6	65.8	**0.0067**	34.7	54.2	**0.0056**	36.9
7	......	**0.0100**	......	88.3	**0.0090**	30.6	77.3	**0.0079**	32.7	65.6	**0.0067**	34.8	53.9	**0.0056**	37.0
8	......	**0.0099**	......	88.2	**0.0089**	30.7	77.2	**0.0078**	32.8	65.4	**0.0066**	34.9	53.6	**0.0055**	37.1
9	......	**0.0098**	......	88.1	**0.0088**	30.8	77.1	**0.0077**	32.9	65.2	**0.0065**	35.0	53.3	**0.0054**	37.2
—29.0	......	**0.0098**	......	88.0	**0.0087**	—31.0	77.0	**0.0076**	—33.0	65.0	**0.0064**	—35.2	53.0	**0.0053**	—37.4
1	......	**0.0097**	......	87.9	**0.0087**	31.1	76.8	**0.0076**	33.1	64.8	**0.0064**	35.4	52.7	**0.0053**	37.6
2	......	**0.0097**	......	87.8	**0.0086**	31.2	76.6	**0.0075**	33.2	64.6	**0.0063**	35.5	52.4	**0.0052**	37.8
3	......	**0.0096**	......	87.7	**0.0086**	31.3	76.4	**0.0075**	33.3	64.4	**0.0063**	35.6	52.1	**0.0052**	37.9
4	......	**0.0096**	......	87.6	**0.0085**	31.4	76.2	**0.0074**	33.4	64.2	**0.0062**	35.7	51.8	**0.0051**	38.0
5	......	**0.0095**	......	87.5	**0.0085**	31.5	76.0	**0.0074**	33.5	64.0	**0.0062**	35.8	51.5	**0.0051**	38.1
6	......	**0.0095**	......	87.4	**0.0084**	31.6	75.8	**0.0073**	33.6	63.8	**0.0061**	35.9	51.2	**0.0050**	38.2
7	......	**0.0094**	......	87.3	**0.0084**	31.7	75.6	**0.0073**	33.7	63.6	**0.0061**	36.0	50.9	**0.0050**	38.3
8	......	**0.0094**	......	87.2	**0.0083**	31.8	75.4	**0.0072**	33.8	63.4	**0.0060**	36.1	50.6	**0.0049**	38.4
9	......	**0.0093**	......	87.1	**0.0082**	31.9	75.2	**0.0071**	33.9	63.2	**0.0059**	36.2	50.3	**0.0048**	38.5
—30.0	......	**0.0092**	......	87.0	**0.0081**	—32.0	75 0	**0.0070**	—34.0	63.0	**0.0058**	—36.4	50.0	**0.0047**	—38.7
1	......	**0.0092**	......	87.0	**0.0081**	32.1	74.9	**0.0070**	34.1	62.8	**0.0058**	36.5	49.7	**0.0047**	38.9
2	......	**0.0091**	......	87.0	**0.0080**	32.2	74.8	**0.0069**	34.2	62.6	**0.0057**	36.6	49.4	**0.0046**	39.1
3	......	**0.0091**	......	87.0	**0.0080**	32.3	74.7	**0.0069**	34.3	62.4	**0.0057**	36.7	49.1	**0.0046**	39.2
4	......	**0.0090**	......	87.0	**0.0079**	32.4	74.6	**0.0068**	34.4	62.2	**0.0056**	36.8	48.8	**0.0045**	39.3
5	......	**0.0090**	......	87.0	**0.0079**	32.5	74.5	**0.0068**	34.5	62.0	**0.0056**	36.9	48.5	**0.0045**	39.4
6	......	**0.0089**	......	87.0	**0.0078**	32.6	74.4	**0.0067**	34.6	61.8	**0.0055**	37.0	48.2	**0.0044**	39.5
7	......	**0.0089**	......	87.0	**0.0078**	32.7	74.3	**0.0067**	34.7	61.6	**0.0055**	37.1	47.9	**0.0044**	39.6
8	......	**0.0088**	......	87.0	**0.0077**	32.8	74.2	**0.0066**	34.8	61.4	**0.0054**	37.2	47.6	**0.0043**	39.7
9	......	**0.0086**	......	87.0	**0.0076**	32.9	74.1	**0.0065**	34.9	61.2	**0.0054**	37.3	47.3	**0.0043**	39 8

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—28.0	46.0	**0.0018**	—38.6	35.0	**0.0036**	—41.4	23.0	**0.0025**	—44.3	......	......	......	......	......	......
1	45.6	**0.0018**	38.8	34.5	**0.0036**	41.6	22.5	**0.0025**	44.4	......	......	......	......	......	......
2	45.2	**0.0017**	39.0	34.0	**0.0035**	41.7	22.0	**0.0024**	44.5	......	......	......	......	......	......
3	44.8	**0.0017**	39.1	33.5	**0.0035**	41.9	21.5	**0.0024**	44.7	......	......	......	......	......	......
4	44.4	**0.0016**	39.2	33.0	**0.0034**	42.0	21.0	**0.0023**	44.9	......	......	......	......	......	......
5	44.0	**0.0016**	39.3	32.5	**0.0034**	42.2	20.5	**0.0023**	45.1	......	......	......	......	......	......
6	43.6	**0.0015**	39.4	32.0	**0.0033**	42.3	20.0	**0.0022**	45.3	......	......	......	......	......	......
7	43.2	**0.0015**	39.5	31.5	**0.0033**	42.5	19.5	**0.0022**	45.5	......	......	......	......	......	......
8	42.8	**0.0014**	39.6	31.0	**0.0032**	42.6	19.0	**0.0021**	45.7	......	......	......	......	......	......
9	42.4	**0.0013**	39.8	30.5	**0.0031**	42.8	18.5	**0.0020**	45.9	......	......	......	......	......	......
—29.0	42.0	**0.0012**	40.0	30.0	**0.0030**	—43.0	18.0	**0.0019**	—46.0	......	......	......	......	......	......
1	41.6	**0.0012**	40.2	29.4	**0.0030**	43.2	......	......	......	......	......	......	......	......	......
2	41.2	**0.0011**	40.4	28.8	**0.0029**	43.3	......	......	......	......	......	......	......	......	......
3	40.8	**0.0011**	40.6	28.2	**0.0029**	43.5	......	......	......	......	......	......	......	......	......
4	40.4	**0.0010**	40.7	27.6	**0.0028**	43.7	......	......	......	......	......	......	......	......	......
5	40.0	**0.0010**	40.8	27.0	**0.0028**	43.8	......	......	......	......	......	......	......	......	......
6	39.6	**0.0039**	40.9	26.4	**0.0027**	44.0	......	......	......	......	......	......	......	......	......
7	39.2	**0.0039**	41.0	25.8	**0.0027**	44.1	......	......	......	......	......	......	......	......	......
8	38.8	**0.0038**	41.1	25.2	**0.0026**	44.3	......	......	......	......	......	......	......	......	......
9	38.4	**0.0037**	41.2	24.6	**0.0025**	44.4	......	......	......	......	......	......	......	......	......
—30.0	38.0	**0.0036**	—41.4	24.0	**0.0024**	—44.6	......	......	......	......	......	......	......	......	......
1	37.6	**0.0036**	41.6	23.6	**0.0024**	44.7	......	......	......	......	......	......	......	......	......
2	37.2	**0.0035**	41.8	23.2	**0.0023**	44.9	......	......	......	......	......	......	......	......	......
3	36.8	**0.0035**	42.0	22.8	**0.0022**	45.0	......	......	......	......	......	......	......	......	......
4	36.4	**0.0034**	42.2	22.4	**0.0022**	45.2	......	......	......	......	......	......	......	......	......
5	36.0	**0.0034**	42.3	22.0	**0.0021**	45.3	......	......	......	......	......	......	......	......	......
6	35.6	**0.0033**	42.4	21.6	**0.0021**	45.5	......	......	......	......	......	......	......	......	......
7	35.2	**0.0033**	42.5	21.2	**0.0020**	45.6	......	......	......	......	......	......	......	......	......
8	34.8	**0.0032**	42.6	20.8	**0.0020**	45.8	......	......	......	......	......	......	......	......	......
9	34.4	**0.0032**	42.7	20.4	**0.0019**	45.9	......	......	......	......	......	......	......	......	......

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—31°.0	......	**0.0087**	......	87.0	**0.0075**	—33.0	74.0	**0.0064**	—35.1	61.0	**0.0053**	—37.5	47.0	**0.0042**	—40.0
1	......	**0.0087**	......	86.9	**0.0075**	33.1	73.8	**0.0064**	35.3	60.7	**0.0053**	37.7	46.6	**0.0042**	40.2
2	......	**0.0086**	......	86.8	**0.0074**	33.2	73.6	**0.0063**	35.4	60.4	**0.0052**	37.8	46.2	**0.0041**	40.4
3	......	**0.0086**	......	86.7	**0.0074**	33.3	73.4	**0.0063**	35.5	60.1	**0.0052**	37.9	45.8	**0.0041**	40.6
4	......	**0.0085**	......	86.6	**0.0073**	33.4	73.2	**0.0062**	35.6	59.8	**0.0051**	38.0	45.4	**0.0040**	40.7
5	......	**0.0085**	......	86.5	**0.0073**	33.5	73.0	**0.0062**	35.7	59.5	**0.0051**	38.1	45.0	**0.0040**	40.8
6	......	**0.0084**	......	86.4	**0.0072**	33.6	72.8	**0.0061**	35.8	59.2	**0.0050**	38.2	44.6	**0.0039**	40.9
7	......	**0.0084**	......	86.3	**0.0072**	33.7	72.6	**0.0061**	35.9	58.9	**0.0050**	38.3	44.2	**0.0039**	41.0
8	......	**0.0083**	......	86.2	**0.0071**	33.8	72.4	**0.0060**	36.0	58.6	**0.0049**	38.4	43.8	**0.0038**	41.1
9	......	**0.0082**	......	86.1	**0.0071**	33.9	72.2	**0.0059**	36.1	58.3	**0.0048**	38.5	43.4	**0.0037**	41.2
—32.0	......	**0.0081**	......	86.0	**0.0070**	—34.0	72.0	**0.0058**	—36.3	58.0	**0.0047**	—38.7	43.0	**0.0036**	—41.4
1	......	**0.0081**	......	85.9	**0.0070**	34.1	71.8	**0.0058**	36.5	57.7	**0.0047**	38.9	42.6	**0.0036**	41.6
2	......	**0.0080**	......	85.8	**0.0069**	34.2	71.6	**0.0057**	36.6	57.4	**0.0046**	39.1	42.2	**0.0035**	41.7
3	......	**0.0079**	......	85.7	**0.0069**	34.3	71.4	**0.0057**	36.7	57.1	**0.0046**	39.3	41.8	**0.0035**	41.9
4	......	**0.0079**	......	85.6	**0.0068**	34.4	71.2	**0.0056**	36.8	56.8	**0.0045**	39.4	41.4	**0.0034**	42.0
5	......	**0.0078**	......	85.5	**0.0068**	34.5	71.0	**0.0056**	36.9	56.5	**0.0045**	39.5	41.0	**0.0034**	42.2
6	......	**0.0078**	......	85.4	**0.0067**	34.6	70.8	**0.0055**	37.0	56.2	**0.0044**	39.6	40.6	**0.0033**	42.3
7	......	**0.0077**	......	85.3	**0.0067**	34.7	70.6	**0.0055**	37.1	55.9	**0.0044**	39.7	40.2	**0.0033**	42.5
8	......	**0.0076**	......	85.2	**0.0066**	34.8	70.4	**0.0054**	37.2	55.6	**0.0043**	39.8	39.8	**0.0032**	42.6
9	......	**0.0076**	......	85.1	**0.0065**	34.9	70.2	**0.0054**	37.3	55.3	**0.0043**	39.9	39.4	**0.0032**	42.8
—33.0	......	**0.0075**	......	85.0	**0.0064**	—35.1	70.0	**0.0053**	—37.4	55.0	**0.0042**	—40.0	39.0	**0.0030**	—42.9
1	......	**0.0074**	......	84.9	**0.0064**	35.3	69.8	**0.0053**	37.6	54.6	**0.0042**	40.2	38.6	**0.0029**	42.9
2	......	**0.0074**	......	84.8	**0.0063**	35.4	69.6	**0.0052**	37.7	54.2	**0.0041**	40.3	38.2	**0.0029**	43.0
3	......	**0.0073**	......	84.7	**0.0063**	35.5	69.4	**0.0052**	37.8	53.8	**0.0041**	40.4	37.8	**0.0028**	43.0
4	......	**0.0073**	......	84.6	**0.0062**	35.6	69.2	**0.0051**	37.9	53.4	**0.0040**	40.5	37.4	**0.0028**	43.0
5	......	**0.0072**	......	84.5	**0.0062**	35.7	69.0	**0.0051**	38.0	53.0	**0.0040**	40.6	37.0	**0.0027**	43.1
6	......	**0.0072**	......	84.4	**0.0061**	35.8	68.8	**0.0050**	38.1	52.6	**0.0039**	40.7	36.6	**0.0027**	43.1
7	......	**0.0071**	......	84.3	**0.0061**	35.9	68.6	**0.0050**	38.2	52.2	**0.0039**	40.8	36.2	**0.0026**	43.1
8	......	**0.0071**	......	84.2	**0.0060**	36.0	68.4	**0.0049**	38.3	51.8	**0.0038**	40.9	35.8	**0.0026**	43.2
9	......	**0.0070**	......	84.1	**0.0059**	36.1	68.2	**0.0048**	38.4	51.4	**0.0037**	41.0	35.4	**0.0025**	43.2

Wet-bulb thermometer, *t*, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0.°5			0.°6			0.°7			0.°8			0.°9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
−31.0	34.0	**0.0031**	−42.8	20.0	**0.0019**	−46.0	------	------	------	------	------	------	------	------	------
1	33.6	**0.0031**	43.0	------	------	------	------	------	------	------	------	------	------	------	------
2	33.2	**0.0030**	43.2	------	------	------	------	------	------	------	------	------	------	------	------
3	32.8	**0.0030**	43.3	------	------	------	------	------	------	------	------	------	------	------	------
4	32.4	**0.0029**	43.4	------	------	------	------	------	------	------	------	------	------	------	------
5	32.0	**0.0029**	43.5	------	------	------	------	------	------	------	------	------	------	------	------
6	31.6	**0.0028**	43.6	------	------	------	------	------	------	------	------	------	------	------	------
7	31.2	**0.0028**	43.7	------	------	------	------	------	------	------	------	------	------	------	------
8	30.8	**0.0027**	43.8	------	------	------	------	------	------	------	------	------	------	------	------
9	30.4	**0.0027**	43.9	------	------	------	------	------	------	------	------	------	------	------	------
−32.0	30.0	**0.0026**	−44.1	------	------	------	------	------	------	------	------	------	------	------	------
1	29.5	**0.0026**	44.3	------	------	------	------	------	------	------	------	------	------	------	------
2	29.0	**0.0025**	44.5	------	------	------	------	------	------	------	------	------	------	------	------
3	28.5	**0.0025**	44.7	------	------	------	------	------	------	------	------	------	------	------	------
4	28.0	**0.0024**	44.9	------	------	------	------	------	------	------	------	------	------	------	------
5	27.5	**0.0024**	45.0	------	------	------	------	------	------	------	------	------	------	------	------
6	27.0	**0.0023**	45.1	------	------	------	------	------	------	------	------	------	------	------	------
7	26.5	**0.0023**	45.2	------	------	------	------	------	------	------	------	------	------	------	------
8	26.0	**0.0022**	45.3	------	------	------	------	------	------	------	------	------	------	------	------
9	25.5	**0.0022**	45.4	------	------	------	------	------	------	------	------	------	------	------	------
−33.0	25.0	**0.0021**	−45.5	------	------	------	------	------	------	------	------	------	------	------	------
1	24.5	**0.0020**	45.6	------	------	------	------	------	------	------	------	------	------	------	------
2	24.0	**0.0020**	45.8	------	------	------	------	------	------	------	------	------	------	------	------
3	23.5	**0.0019**	45.9	------	------	------	------	------	------	------	------	------	------	------	------
4	23.0	**0.0019**	46.1	------	------	------	------	------	------	------	------	------	------	------	------
5	22.5	**0.0018**	46.3	------	------	------	------	------	------	------	------	------	------	------	------
6	22.0	**0.0018**	46.4	------	------	------	------	------	------	------	------	------	------	------	------
7	21.5	**0.0017**	46.6	------	------	------	------	------	------	------	------	------	------	------	------
8	21.0	**0.0017**	46.7	------	------	------	------	------	------	------	------	------	------	------	------
9	20.5	**0.0016**	46.8	------	------	------	------	------	------	------	------	------	------	------	------

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—34°.0	......	**0.0070**	......	84.0	**0.0059**	—36.2	68.0	**0.0048**	—38.5	51.0	**0.0037**	—41.2	35.0	**0.0025**	—44.3
1	......	**0.0070**	......	83.8	**0.0059**	36.3	67.7	**0.0048**	38.7	50.7	**0.0037**	41.4	34.5	**0.0025**	44.5
2	......	**0.0069**	......	83.6	**0.0058**	36.4	67.4	**0.0047**	38.8	50.4	**0.0036**	41.6	34.0	**0.0024**	44.7
3	......	**0.0069**	......	83.4	**0.0058**	36.5	67.1	**0.0047**	38.9	50.1	**0.0036**	41.8	33.5	**0.0024**	44.9
4	......	**0.0068**	......	83.2	**0.0057**	36.6	66.8	**0.0046**	39.0	49.8	**0.0035**	41.9	33.0	**0.0023**	45.1
5	......	**0.0068**	......	83.0	**0.0057**	36.7	66.5	**0.0046**	39.1	49.5	**0.0035**	42.0	32.5	**0.0023**	45.2
6	......	**0.0067**	......	82.8	**0.0056**	36.8	66.2	**0.0045**	39.2	49.2	**0.0034**	42.1	32.0	**0.0022**	45.3
7	......	**0.0067**	......	82.6	**0.0056**	36.9	65.9	**0.0045**	39.3	48.9	**0.0034**	42.2	31.5	**0.0022**	45.4
8	......	**0.0066**	......	82.4	**0.0055**	37.0	65.6	**0.0044**	39.4	48.6	**0.0033**	42.3	31.0	**0.0021**	45.5
9	......	**0.0065**	......	82.2	**0.0055**	37.1	65.3	**0.0044**	39.5	48.3	**0.0033**	42.4	30.5	**0.0021**	45.6
—35.0	......	**0.0065**	......	82.0	**0.0054**	—37.2	65.0	**0.0043**	—39.7	48.0	**0.0032**	—42.5	30.0	**0.0020**	—45.7
1	......	**0.0064**	......	81.9	**0.0054**	37.4	64.7	**0.0043**	39.9	47.6	**0.0032**	42.7	29.4	**0.0020**	45.9
2	......	**0.0064**	......	81.8	**0.0053**	37.5	64.4	**0.0042**	40.1	47.2	**0.0031**	42.9	28.8	**0.0019**	46.0
3	......	**0.0063**	......	81.7	**0.0053**	37.6	64.1	**0.0042**	40.2	46.8	**0.0031**	43.0	28.2	**0.0019**	46.2
4	......	**0.0063**	......	81.6	**0.0052**	37.7	63.8	**0.0041**	40.3	46.4	**0.0030**	43.1	27.6	**0.0018**	46.3
5	......	**0.0062**	......	81.5	**0.0052**	37.8	63.5	**0.0041**	40.4	46.0	**0.0030**	43.2	27.0	**0.0018**	46.5
6	......	**0.0062**	......	81.4	**0.0051**	37.9	63.2	**0.0040**	40.5	45.6	**0.0029**	43.3	26.4	**0.0017**	46.6
7	......	**0.0061**	......	81.3	**0.0051**	38.0	62.9	**0.0040**	40.6	45.2	**0.0029**	43.4	25.8	**0.0017**	46.8
8	......	**0.0061**	......	81.2	**0.0050**	38.1	62.6	**0.0039**	40.7	44.8	**0.0028**	43.5	25.2	**0.0016**	46.9
9	......	**0.0060**	......	81.1	**0.0050**	38.2	62.3	**0.0039**	40.8	44.4	**0.0028**	43.6	24.6	**0.0016**	47.1
—36.0	......	**0.0060**	......	81.0	**0.0049**	—38.3	62.0	**0.0038**	—41.0	44.0	**0.0027**	—43.7	24.0	**0.0015**	—47.2
1	......	**0.0059**	......	80.8	**0.0049**	38.4	61.6	**0.0038**	41.1	43.5	**0.0027**	43.9	23.6	**0.0015**	47.4
2	......	**0.0059**	......	80.6	**0.0048**	38.5	61.2	**0.0037**	41.2	43.0	**0.0026**	44.1	23.2	**0.0014**	47.5
3	......	**0.0058**	......	80.4	**0.0048**	38.6	60.8	**0.0037**	41.3	42.5	**0.0026**	44.2	22.8	**0.0014**	47.7
4	......	**0.0058**	......	80.2	**0.0047**	38.7	60.4	**0.0036**	41.4	42.0	**0.0025**	44.3	22.4	**0.0013**	47.8
5	......	**0.0057**	......	80.0	**0.0047**	38.8	60.0	**0.0036**	41.5	41.5	**0.0025**	44.4	22.0	**0.0013**	48.0
6	......	**0.0057**	......	79.8	**0.0046**	38.9	59.6	**0.0035**	41.6	41.0	**0.0024**	44.5	21.6	**0.0012**	48.1
7	......	**0.0056**	......	79.6	**0.0046**	39.1	59.2	**0.0035**	41.7	40.5	**0.0024**	44.6	21.2	**0.0012**	48.3
8	......	**0.0056**	......	79.4	**0.0045**	39.2	58.8	**0.0034**	41.8	40.0	**0.0023**	44.7	20.8	**0.0011**	48.4
9	......	**0.0055**	......	79.2	**0.0044**	39.3	58.4	**0.0034**	42.0	39.5	**0.0022**	44.8	20.4	**0.0011**	48.6

DIFFERENCE OF DRY AND WET BULB THERMOMETERS.

Wet-bulb thermometer.	0.5			0°.6			0°.7			0°.8			0°.9		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
34.0	20.0	0.0016	47.0												
1	19.5	0.0016	47.1												
2	19.0	0.0015	47.3												
3	18.5	0.0015	47.4												
4	18.0	0.0014	47.6												
5	17.5	0.0014	47.7												
6	17.0	0.0013	47.9												
7	16.5	0.0013	48.1												
8	16.0	0.0012	48.2												
9	15.5	0.0012	48.3												
35.0	15.0	0.0011	48.4												
1	14.6	0.0011	48.6												
2	14.2	0.0010	48.7												
3	13.8	0.0010	48.9												
4	13.4	0.0009	49.0												
5	13.0	0.0009	49.2												
6	12.6	0.0008	49.3												
7	12.2	0.0008	49.5												
8	11.8	0.0007	49.6												
9	11.4	0.0007	49.8												
36.0	11.0	0.0007	49.9												
1	10.5	0.0007	50.0												
2	10.0	0.0006	50.2												
3	9.5	0.0006	50.3												
4	9.0	0.0005	50.5												
5	8.5	0.0005	50.6												
6	8.0	0.0004	50.8												
7	7.5	0.0004	50.9												
8	7.0	0.0003	51.1												
9	6.5	0.0003	51.2												

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—37°.0	......	**0.0055**	......	79.0	**0.0044**	—39.5	58.0	**0.0034**	—42.1	39.0	**0.0022**	—45.0	20.0	**0.0010**	—48.7
1	......	**0.0055**	......	78.8	**0.0044**	39.7	57.7	**0.0034**	42.3	38.5	**0.0022**	45.2	19.5	**0.0010**	48.8
2	......	**0.0054**	......	78.6	**0.0043**	39.9	57.4	**0.0033**	42.4	38.0	**0.0021**	45.4	19.0	**0.0009**	48.9
3	......	**0.0054**	......	78.4	**0.0043**	40.0	57.1	**0.0033**	42.5	37.5	**0.0021**	45.6	18.5	**0.0009**	49.1
4	......	**0.0053**	......	78.2	**0.0042**	40.1	56.8	**0.0032**	42.6	37.0	**0.0020**	45.7	18.0	**0.0008**	49.3
5	......	**0.0053**	......	78.0	**0.0042**	40.2	56.5	**0.0032**	42.7	36.5	**0.0020**	45.8	17.5	**0.0008**	49.5
6	......	**0.0052**	......	77.8	**0.0041**	40.3	56.2	**0.0031**	42.8	36.0	**0.0019**	45.9	17.0	**0.0007**	49.7
7	......	**0.0052**	......	77.6	**0.0041**	40.4	55.9	**0.0031**	42.9	35.5	**0.0019**	46.0	16.5	**0.0007**	49.8
8	......	**0.0051**	......	77.4	**0.0040**	40.5	55.6	**0.0030**	43.0	35.0	**0.0018**	46.1	16.0	**0.0006**	49.9
9	......	**0.0051**	......	77.2	**0.0040**	40.6	55.3	**0.0030**	43.1	34.5	**0.0018**	46.2	15.5	**0.0006**	50.0
—38.0	......	**0.0050**	......	77.0	**0.0039**	—40.7	55.0	**0.0029**	—43.3	34.0	**0.0018**	—46.3	15.0	**0.0006**	—50.1
1	......	**0.0050**	......	76.8	**0.0039**	40.9	54.5	**0.0029**	43.4	33.5	**0.0018**	46.5	14.6	**0.0005**	50.3
2	......	**0.0049**	......	76.6	**0.0038**	41.0	54.0	**0.0028**	43.4	33.0	**0.0017**	46.7	14.2	**0.0005**	50.5
3	......	**0.0049**	......	76.4	**0.0038**	41.1	53.5	**0.0028**	43.5	32.5	**0.0017**	46.9	13.8	**0.0005**	50.7
4	......	**0.0048**	......	76.2	**0.0037**	41.2	53.0	**0.0027**	43.6	32.0	**0.0016**	47.1	13.4	**0.0004**	50.8
5	......	**0.0048**	......	76.0	**0.0037**	41.3	52.5	**0.0027**	43.6	31.5	**0.0016**	47.2	13.0	**0.0004**	50.9
6	......	**0.0047**	......	75.8	**0.0036**	41.4	52.0	**0.0026**	43.7	31.0	**0.0015**	47.3	12.6	**0.0004**	51.0
7	......	**0.0047**	......	75.6	**0.0036**	41.5	51.5	**0.0026**	43.8	30.5	**0.0015**	47.4	12.2	**0.0003**	51.1
8	......	**0.0046**	......	75.4	**0.0035**	41.6	51.0	**0.0025**	43.8	30.0	**0.0014**	47.5	11.8	**0.0003**	51.2
9	......	**0.0046**	......	75.2	**0.0035**	41.7	50.5	**0.0025**	43.9	29.5	**0.0014**	47.6	11.4	**0.0003**	51.3
—39.0	......	**0.0046**	......	75.0	**0.0035**	—41.8	50.0	**0.0025**	—44.0	29.0	**0.0013**	—47.7	11.0	**0.0002**	—51.4
1	......	**0.0045**	......	74.8	**0.0034**	41.9	49.6	**0.0024**	44.2	28.6	**0.0013**	47.9	10.6	**0.0002**	51.6
2	......	**0.0045**	......	74.6	**0.0034**	42.0	49.2	**0.0024**	44.4	28.2	**0.0012**	48.1	10.2	**0.0002**	51.7
3	......	**0.0045**	......	74.4	**0.0034**	42.1	48.8	**0.0023**	44.6	27.8	**0.0012**	48.2	9.8	**0.0001**	51.9
4	......	**0.0044**	......	74.2	**0.0033**	42.2	48.4	**0.0023**	44.7	27.4	**0.0011**	48.3	9.4	**0.0001**	52.0
5	......	**0.0044**	......	74.0	**0.0033**	42.3	48.0	**0.0022**	44.8	27.0	**0.0011**	48.4	9.0	**0.0001**	52.2
6	......	**0.0044**	......	73.8	**0.0033**	42.4	47.6	**0.0022**	44.9	26.6	**0.0011**	48.5	8.6	**0.0001**	52.3
7	......	**0.0043**	......	73.6	**0.0032**	42.5	47.2	**0.0021**	45.0	26.2	**0.0010**	48.6	8.2	**0.0000**	52.5
8	......	**0.0043**	......	73.4	**0.0032**	42.6	46.8	**0.0021**	45.2	25.8	**0.0010**	48.7	7.8	**0.0000**	52.6
9	......	**0.0042**	......	73.2	**0.0031**	42.8	46.4	**0.0020**	45.4	25.4	**0.0010**	48.8	7.4	**0.0000**	52.8

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
—40°.0	......	**0.0042**	......	73.0	**0.0031**	—42.9	46.0	**0.0020**	—45.6	25.0	**0.0009**	—48.9	7.0	**0.0000**	—52.9
1	......	**0.0042**	......	72.7	**0.0031**	43.1	45.5	**0.0020**	45.8	24.5	**0.0009**	49.1	......	......	......
2	......	**0.0041**	......	72.4	**0.0030**	43.2	45.0	**0.0019**	46.0	24.0	**0.0008**	49.2	......	......	......
3	......	**0.0041**	......	72.1	**0.0030**	43.3	44.5	**0.0019**	46.1	23.5	**0.0008**	49.3	......	......	......
4	......	**0.0040**	......	71.8	**0.0029**	43.4	44.0	**0.0018**	46.2	23.0	**0.0008**	49.4	......	......	......
5	......	**0.0040**	......	71.5	**0.0029**	43.5	43.5	**0.0018**	46.3	22.5	**0.0007**	49.5	......	......	......
6	......	**0.0039**	......	71.2	**0.0028**	43.6	43.0	**0.0017**	46.4	22.0	**0.0007**	49.6	......	......	......
7	......	**0.0039**	......	70.9	**0.0028**	43.7	42.5	**0.0017**	46.5	21.5	**0.0006**	49.7	......	......	......
8	......	**0.0038**	......	70.6	**0.0027**	43.8	42.0	**0.0016**	46.6	21.0	**0.0006**	49.8	......	......	......
9	......	**0.0038**	......	70.3	**0.0027**	43.9	41.5	**0.0016**	46.7	20.5	**0.0006**	49.9	......	......	......
—41.0	......	**0.0038**	......	70.0	**0.0026**	—44.0	41.0	**0.0016**	—46.8	20.0	**0.0005**	—50.1	......	......	......
1	......	**0.0037**	......	69.7	**0.0026**	44.1	40.5	**0.0015**	47.0	19.5	**0.0005**	50.3	......	......	......
2	......	**0.0037**	......	69.4	**0.0025**	44.2	40.0	**0.0015**	47.2	19.0	**0.0004**	50.5	......	......	......
3	......	**0.0037**	......	69.1	**0.0025**	44.3	39.5	**0.0014**	47.3	18.5	**0.0004**	50.6	......	......	......
4	......	**0.0036**	......	68.8	**0.0024**	44.4	39.0	**0.0014**	47.4	18.0	**0.0004**	50.7	......	......	......
5	......	**0.0036**	......	68.5	**0.0024**	44.5	38.5	**0.0013**	47.5	17.5	**0.0003**	50.8	......	......	......
6	......	**0.0035**	......	68.2	**0.0023**	44.6	38.0	**0.0013**	47.6	17.0	**0.0003**	50.9	......	......	......
7	......	**0.0035**	......	67.9	**0.0023**	44.7	37.5	**0.0013**	47.7	16.5	**0.0003**	51.0	......	......	......
8	......	**0.0035**	......	67.6	**0.0022**	44.8	37.0	**0.0012**	47.8	16.0	**0.0002**	51.1	......	......	......
9	......	**0.0034**	......	67.3	**0.0022**	44.9	36.5	**0.0012**	47.9	15.5	**0.0002**	51.2	......	......	......
—42.0	......	**0.0034**	......	67.0	**0.0022**	—45.1	36.0	**0.0012**	—48.0	15.0	**0.0001**	—51.4	......	......	......
1	......	**0.0034**	......	66.6	**0.0021**	45.2	35.5	**0.0012**	48.1	14.5	**0.0001**	51.6	......	......	......
2	......	**0.0033**	......	66.2	**0.0021**	45.3	35.0	**0.0011**	48.2	14.0	**0.0001**	51.8	......	......	......
3	......	**0.0033**	......	65.8	**0.0021**	45.4	34.5	**0.0011**	48.3	13.5	**0.0001**	51.9	......	......	......
4	......	**0.0032**	......	65.4	**0.0020**	45.5	34.0	**0.0010**	48.4	13.0	**0.0001**	52.0	......	......	......
5	......	**0.0032**	......	65.0	**0.0020**	45.6	33.5	**0.0010**	48.5	12.5	**0.0001**	52.1	......	......	......
6	......	**0.0031**	......	64.6	**0.0019**	45.7	33.0	**0.0009**	48.6	12.0	**0.0000**	52.2	......	......	......
7	......	**0.0031**	......	64.2	**0.0019**	45.8	32.5	**0.0009**	48.7	11.5	**0.0000**	52.3	......	......	......
8	......	**0.0030**	......	63.8	**0.0018**	45.9	32.0	**0.0008**	48.8	11.0	**0.0000**	52.5	......	......	......
9	......	**0.0030**	......	63.4	**0.0018**	46.1	31.5	**0.0008**	49.0	10.5	**0.0000**	52.7	......	......	......

Wet-bulb thermometer, t, Fahrenheit.	DIFFERENCE OF DRY AND WET BULB THERMOMETERS.														
	0°.0			0°.1			0°.2			0°.3			0°.4		
	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.	Relative humidity in hundredths.	Force of vapor in English inches.	Temperature of the dew-point.
−43°.0	......	**0.0030**	......	63.0	**0.0018**	−46.2	......	......	......	......	......	......	......	......	......
1	......	**0.0030**	......	62.5	**0.0018**	46.3	......	......	......	......	......	......	......	......	......
2	......	**0.0029**	......	62.0	**0.0017**	46.4	......	......	......	......	......	......	......	......	......
3	......	**0.0029**	......	61.5	**0.0017**	46.5	......	......	......	......	......	......	......	......	......
4	......	**0.0028**	......	61.0	**0.0016**	46.6	......	......	......	......	......	......	......	......	......
5	......	**0.0028**	......	60.5	**0.0016**	46.7	......	......	......	......	......	......	......	......	......
6	......	**0.0027**	......	60.0	**0.0015**	46.8	......	......	......	......	......	......	......	......	......
7	......	**0.0027**	......	59.5	**0.0015**	46.9	......	......	......	......	......	......	......	......	......
8	......	**0.0026**	......	59.0	**0.0014**	47.0	......	......	......	......	......	......	......	......	......
9	......	**0.0026**	......	58.5	**0.0014**	47.1	......	......	......	......	......	......	......	......	......
−44.0	......	**0.0026**	......	58.0	**0.0014**	−47.3	......	......	......	......	......	......	......	......	......
1	......	**0.0026**	......	57.4	**0.0014**	47.4	......	......	......	......	......	......	......	......	......
2	......	**0.0025**	......	56.8	**0.0013**	47.5	......	......	......	......	......	......	......	......	......
3	......	**0.0025**	......	56.2	**0.0013**	47.6	......	......	......	......	......	......	......	......	......
4	......	**0.0024**	......	55.6	**0.0013**	47.7	......	......	......	......	......	......	......	......	......
5	......	**0.0024**	......	55.0	**0.0012**	47.8	......	......	......	......	......	......	......	......	......
6	......	**0.0023**	......	54.4	**0.0012**	47.9	......	......	......	......	......	......	......	......	......
7	......	**0.0023**	......	53.8	**0.0012**	48.0	......	......	......	......	......	......	......	......	......
8	......	**0.0022**	......	53.2	**0.0011**	48.1	......	......	......	......	......	......	......	......	......
9	......	**0.0022**	......	52.6	**0.0011**	48.2	......	......	......	......	......	......	......	......	......
−45.0	......	**0.0022**	......	52.0	**0.0011**	−48.4	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
3	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
4	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
5	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
6	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
7	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
8	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
9	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......